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Construction of Test and Compilation of Norms for Measurement of Agility for Kendra Vidyalaya Boys of Chennai Region

Dr S Vairamani

Department of Physical Education and Sports

Dr. M.G.R.
EDUCATIONAL AND RESEARCH INSTITUTE
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to

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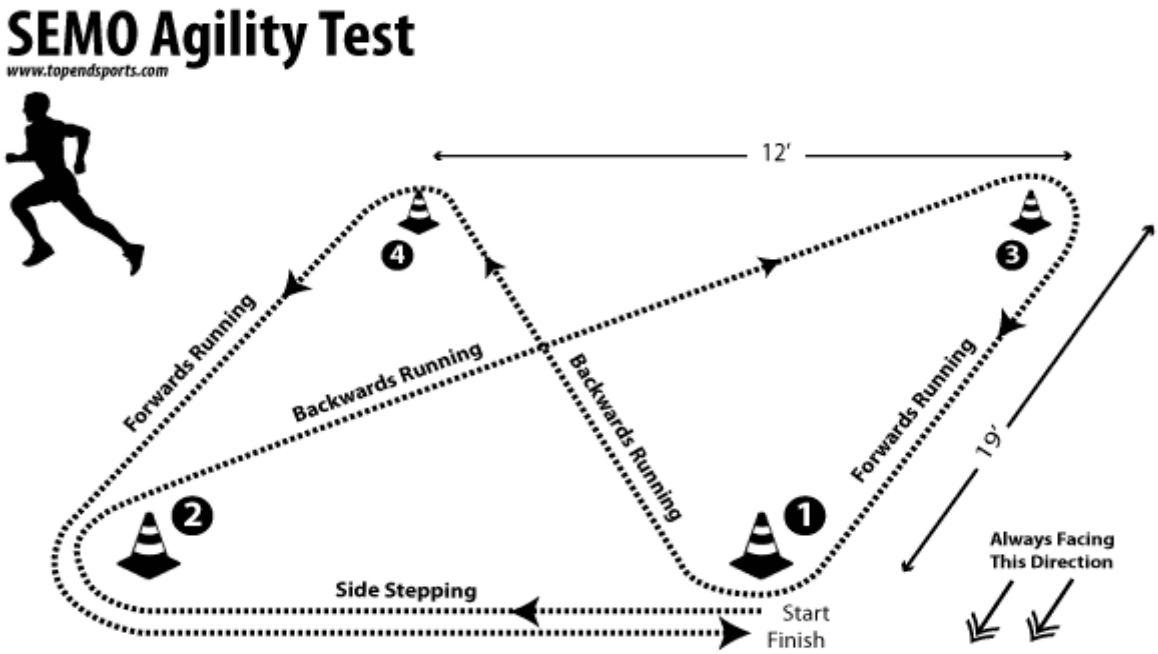

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Dissertation submitted to the Alagappa University, Karaikudi
for the fulfilment of the requirements for the award of
DEGREE OF DOCTOR OF PHILOSOPHY in
PHYSICAL EDUCATION

Submitted by

SHANMUGAM VAIRAMANI

Guided by

Dr. R. THIRUMALAISAMY M.A., M.P.Ed., Ph.D.,

Department of Physical Education & Health Sciences
ALAGAPPA UNIVERSITY
KARAIKUDI - 630 004

APRIL 1997

PREFACE

Physical Education has of late attracted the attention of people of all walks of life irrespective of their status in the society in India. This positive attitude of the people towards exercises to a large extent can be attributed to the Physicians and medical professionals. They have started prescribing exercises along with their therapeutic treatment for various kinds of illness and abnormalities of their patients.

The people at the helm of affairs at the head of the states have realized the importance of physical education and have started to identify physical education as a faculty in the school levels. They have started stressing to introduce Physical Education as a compulsory subject on part with the other subjects. The success or failure of this process depends mostly in the hands of Physical Education Teachers who are solely responsible for the implementation of the programmes at the gross root level.

A desirable change to come into effect is that when physical education is introduced from primary classes to higher secondary levels, and five periods are allotted to each class, the teachers of physical education too are to be appointed proportionately on a par with the other subject teacher instead of appointing them on the basis of the strength of the school.

Since the Physical Education teachers are appointed for every 300 students or 800 students, they are not in a position to man all the classes and the extra physical education periods are given to some subject teachers. Very few of them take interest and teach them some games. they very fundamental point of teaching them how to sit, stand, walk, run, jump and the correct locomotion is left in the early stages without any attention. The students grow with these problems without correction and when they come in the hands of qualified Physical Educators, the mistakes are found to be mostly uncorrectable and lead to so many postural problems.

Dedicated

to

My Beloved Mother

As we receive fitness regimes with standards to test the Vidyalaya population, the standards seem very high and very little population of the Vidyalaya gets selected in some of the tests and it is found very rare to see a student to get through all the tests of the battery. Hence the scholar felt it necessary to construct a test battery for the Kendriya Vidyalaya population and as a first step, he has ventured into the construction of the Agility Test. In the future, he has very strong motivation of constructing a full test battery to test the General Physical Fitness of the Kendriya Vidyalaya children and to construct norms. It may be a motivating factor for the students to do the test with enthusiasm and interest, since the test norms were constructed from among their own performance and most of them would fit in into the norms scale. Apart from that, the students would expect the teacher to have this test once in a quarter or a half year in an academic session to find the level of their improvement in this test.

The scholar is hopeful that if this test is adopted in all the KedriyaVidyalayas and the students accept it as a test for them, it will definitely suit to the population of other States Schools, since a Kendriya Vidyalaya in mini India, consisting of children from all over India and from many sociocultural and socioeconomic environments. The researcher is very optimistic that he would be compelled to construct a test battery for the Kendriya Vidyalaya children in the near future by the acceptance of this test by his children and his colleagues as a test suitable for them.

ACKNOWLEDGEMENTS

The source of inspiration and the mind behind this study was **Dr.R.Thirumalaisamy**, Reader, Department of Physical Education and Health Sciences, Alagappa University, Karaikudi, and his guide and supervisor. The scholar is indebted to him to a greater extent and here by expresses his sincere sentiment of gratitude and thanks to him. Without his cooperation, expert guidance, indoctrination and goading, this study could not have been completed.

The researcher gives forth his earnest and whole hearted feelings of thankfulness to his well wisher, **Dr.A.M.Moorthy**, Professor and Head, Department of Physical Education and Health Sciences, Alagappa University, Karaikudi, for his urge and influence in completing this study at every stage.

The research scholar expresses his immense with profound gratitude to **Dr.A.Pushparajan,** Principal, Maruthi College of Physical Education, Coimbatore, for his timely guidance and valuable advice in the presentation of this dissertation in as a model.

The scholar is undistorted in enunciating the generosity and good will shown by his respected madam, **Dr(Mrs).Jayalakshmi Jaganathan**, the Assistant Commissioner, Kendriya Vidyalaya Sangathan, Madras Region for giving permission to collect data from the KendriyaVidyalayas of Madras Region and to undertake this study. The author is very much grateful to all the Principals of the Vidyalayas for their cooperation in collecting data from the children of their Vidyalayas. The scholar also expresses his gratitude in abundance to **Mr.R.Venkatachalapathy**, Principal, Kendriya Vidyalaya, Karaikudi, for his encouragement and help in bringing up this dissertation and his permission to use his students for the pilot study and to collect data for the study.

The people who stand by and encourage relentlessly contribute much to the success of any activity and such people influence much on the ability and proficiency of any worker. The research scholar feels that **Dr.K.Pown Radha,** Senior Lecturer, **Mr.S.Jaihind Jothikaran**, Lecturer, Department of Physical Education and Health Sciences, **Prof. S.Jayaraman,** Librarian, Central Library, Alagappa University and the excellent staff of the Central Library were such people who stood by and encouraged him in all possible ways to complete this dissertation in a desired manner. He is greatly obliged to all of them.

He is appreciative of the extraordinary and impressive support and assistance delivered by **Mr.K.Thiyagarajan**, Laboratory Instructor, Annamalai Polytecnic, Cheittinad, in guiding the scholar to process and analyse the data through the computer Programmes, He also helped him in the preparation of the thesis. The research scholar is indebted to **Ms.S.Srimathy**, his colleagues, for going through this piece of work for any language flaw in expression and presentation.

Without audience, there is no show and without the supportive subjects, the scholar would have found it very difficult to collect the data three times on three tests. Also, the Physical Education counterparts of the researcher of various Vidyalayas were more accessible and available every time the data were collected. His factual and honest appreciations are due to the subjects and the teachers.

The researcher is significantly thankful to his family members, especially his wife **Mrs.Manohari,** for her abundant and countless sacrifices made for this study.

Presentation fills half of anything done, and the researches owed much to **M/S.K.P.S.V.Computers,** Karaikudi, for their unceasing and relentless service rendered in permitting the scholar to use their computers for data processing and their part in word processing in a glorious manner.

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CHAPTER-I

INTRODUCTION

Poised though man is on the threshold of the twenty first century, he still shares the psyche of his primitive forefathers. He is willing and ready to believe in medical magic, though intellectual evidence is to the contrary. Moreover, although the very factors that influenced the fitness of primitive communities such as food and shelter, continue to be as important as before.

1.1. FITNESS AND PAST

From time immemorial, human ability to perform any physical feat was different from man to man. Man tried to excel other in one way or another. Fitness was a natural talent present in olden days with every man as a matter of existence. If he was not fit, he faced dangers of extermination from his environment of wild life. Self defence was the primitive factor which forced man to be fit. When he lived free from the threats of his life, he needed food for life. He had to earn his food which warranted his fitness. If he was not fit, he was lame that he couldn't hunt and eat. To avoid depending on another human for his food, he learned to be fit. Thus, historic man, right from his evolution lived fit out of his necessity of very existence and survival.

Siddhu[1] had explained that in the primitive man, the nature aroused unlimited curiosity that made him search for truth about the nature and about his own status in their Nature. When man began his study of the environmental phenomenon to understand what existed around him and with what he was constantly interacting, there developed physical and natural science.

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1 Kulbir Singh Siddhu, Methodology of Research in Education. (New Delhi: Sterling Publishers Umited, 1987), P19.

1.2. FITNESS AND PRESENT

Today man indulges in activities to keep him fit because his nature of work, does not give him much scope for physical exertion. Most of his works are done by a machine or a computer and he has to simply sit with it just to coordinate with the work done by it.

According to Uma Krishnasamy[2], the image of exercise has radically changed in the last decade. Exercise and sport have become lucurative industries today, with self styled trainers offering intensive or crash courses to fitness. Such well-meaning, but misguided, attempts have resulted in an increasing number of sport injuries in the recent past. In the current milieu, the sensible and convenient modes of exercise are largely confined to walking and yoga for the average individual.

Half an hour of brisk walking, along with some simple Yoga to tone and condition the muscles, does more in the long run than sporadic bouts of intensive aerobic exercise or competitive sport. Such an ideal exercise pattern was in fact part of our traditional lifestyle. When it comes about walking for half an hour, the advice by the doctor given to a patient comes to one's mind. Harris[3] was advised by his doctor to walk at least one-and-a-half kilometres every day, for his suffering from atherosclerosis in his lower limbs with the assurance that his body would cure the clogged artery problem by itself. After six months, he shed 4.5 kilos of weight and was able to walk and return to play tennis.

---

2 Uma Krishnasomy "Health vs disease, hope vs despair," Health (The Hindu Madras, November (1996)

3 Louis Harris, "Heal Thyself," Reader's Digest. 149.892 (August 1996), 61-63

Waking up early, a walk to the river for daily ablutions, performing "Surya Namaskaram," circumbulating the temple precincts etcetera are the vernacular versions of current thoughts on exercise patterns to augment fitness. It may be noted that a similar physical benefit may be gleaned through the ritual of Muslim prayer too.

Most of the cultivated lands have been converted into concrete forests of factories and houses and the percentage of physical work in the existing fields is reduced to a larger extent by the advent of modern farm equipments like tillers and tractors. Man is depending upon transport systems even to cover a small distance and thereby refusing his cardiovascular system to increase pulse rate and blood flow. He has become very busy since for off places are brought closer by aeroplanes and forgets to keep a time table in his routine, for physical exercises. As a whole, he has become idle and sedentary in this ‘Push-the-button age’.

Palm[4] has rightly pointed out that when a course of events applied to all mankind and endangers its very life basis, it could no longer be ignored. In view of the consequences of the technological progress, sports is no longer the magnificent hobby of an exclusive elite, but an element contributing to the full flourishing of life itself.

What is to be done for that? The public must be made aware of the ill effects of inactivity and the physical education programme itself must be suitably changed to the needs of present status. As we think that all are to be literates, everybody must be provided with opportunities for activities to be fit.

Palm[5] continued that just as today it was no longer debated that every individual was entitled to learn to read and write, so must every individual be assured the

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4 Jorgan Palm, "Sport for all - The Vision and the Reality," Bulletin of the Federation InternalleD'Education Physique, 44:1, (1974), 39.

5 Ibid.

opportunity for the development and maintenance of his bodily organisms through physical activity. We would otherwise have a terrifying future ahead of us- a future in which all our goals of technological progress and prosperity would be achieved, but at the expense of mankind's health and capacity for locomotion. For these reasons, physical Inactivity must be combated as vigorous as illiteracy.

We can very clearly understand as to how today's humanity is to maintain a schedule for exercise at least to have a feeling of well-being by the following comments of Gosh[6]. He asks us to take an early morning walk and to see scores of people huffing and puffing as they jog past us. He wonders at how they generate such a brisk pace with legs that support their oversized torsos. Slim or fat, big or small, man or woman, child or adult - every one of these people has one aim. To stay fit. He asks what fitness is. He explains that to some, it could mean a slim waist line. To others it could be the ability to run up 18 flights of stairs. And to some more it might mean a general feeling of well-being.

1.3. FITNESS AND FUTURE

Through the invention, advent and the use of robots, man's part in work would be completely brought to nothing. He is going to sit in his chair for a longer time and the danger of inactivity is definite to affect him. Before he is crippled due to inactivity, the whole system of physical education throughout the country must be revised, redesigned and reintroduced to suit everyone of the society.

Loper[7] and others emphasized that if physical Education is to respond to present societal needs, a reassessment of the goals and outcomes of our programs is a beginning step. Designing and implementing specific curricular changes to meet new

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6 Gautam Gosh, "Health in Your Hands," Health, (The Hindu: Madras, November 1996), P.26.

7 Deborah A Loper et.al., "Healthful Living the Goal Physical Education the Means?" Journal of Physical Education, Recreation and Dance, 60:2 (February 1989), 61.

goals should follow. Physical Educators can and should make every effort to contribute to improved life styles and health in our students and graduates. We should take advantage of our present opportunity for physical education to assume larger, leadership role in our schools and society.

1.4. PHYSICAL EDUCATION AND CHANGING SOCIETY

Physical Education should be organized by society, for the development of Man's physical abilities, and his fitness. This process should seek to raise the overall of physical culture, because society and people themselves are the heavers of physical culture and if material and spiritual cultures are inherent in society, spiritual and physical cultures should be inherent in each Individual. Physical education in itself should be a significant social phenomenon.

Kukushkin[8] has rightly pointed out that Physical education is educational process. Various methods including sport in its diversity (gymnastics, track-and-field, various games, wrestling and so on) were used in physical education and in raising the overall level of physical culture. Thus the physical education should take an active and leadership role in catering to the needs of the changing society and modified life style.

Skill acquisition and proficiency highly depend upon the physical fitness of the individuals. Aristotle observed, "The body is the temple of the soul and to reach harmony of body, mind and spirit, the body must be physically fit."[9] In this changing environment, the children studying in schools form a major part of the society. To find out the impact of

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8 G.I. Kukushkin, The System of Physical Education in the U.S.S.R. (ed), (Moscow: Moscow Raduga Publishers, 1983), P.7.

9 John Walsh, The First Book of Physical Fitness, (London: Himemman Educational Book Ltd., 1968), P.3.

the changes occuring around them, it becomes necessary to examine their ability to perform various activities. To pin point the strength and weaknesses in a child while performing an activity, there are many tools available with us. They are tests, measurements and evaluation.

1.5. TEST, MEASUREMENTS AND EVALUATION

There are multivarious reasons why a physical educator should attempt to formulate new tests in the existence of numerous tests. As change is permanent in this universe, a change in the routine way of tests and procedure becomes imperative. It also serves as a motivation to the students. This change is a foil to the existing pattern of tests which fail to focus what exactly the physical educationists find necessary at the moment.

Bosco and Gustafson had identified the reasons for employing a test as follows:

> *"There are numerous reasons why physical educators should employ testing in their programs. They may be categorized in many different ways. For the purpose of this discussion, although not necessarily in order of importance, the reasons for testing have been categorised. 1) Classification of students (2) diagnosis of student needs and weaknesses (3) Evaluation of instruction (4) Evaluation of programme (5) marking (6) motivation (7) instruction (8) prediction and (9) research".*

10James S. Bosco and William S. Gustafson, Measurement and Evaluation in Physical Education, Fitness and Sports, (Englewood Cliffs, New Jersey: Prentice-Hall Inc, 1983), P.2.

Safrit[11] points out the purpose of using a test as follows:

> *Usually the rational for using a test encompasses more than one purpose. The following are the uses of test in the physical education field. They are, motivation, achievement, improvement, diagnosis, prescription, evaluation of unit of instruction, grading, evaluation of programme, classification and prediction.*

Rothstein[12] puts it succinctly when he said,

> *The three elements that may be the source of error that make tests unreliable are: 1.Inherent flaws in instrumentation (this may even include bias in paper and pencil test), 2.An inherent lack of consistency in the variable of interest in the type of patient being examined; and 3.Errors made by those persons taking the measurement.*

After exploring the various sources of information available, the aspects and the reasons why a test should be employed had been found and they have been presented below with examples.

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11 Margaret J. Safrit, Introduction to Measurement in Physical Education and Exercise Science, (Saint Louis: Times Mirror/Mosby College publishing, 1986), P5.

12 Jules M. Rothstein, Measurement in Physical Therapy (ed), (New York: Churchill Livingston, 1985), P.8.

1.5.1. Classification of students

Schneider and Greenberg[13] made the assumption that most of the exercise duration claimed was linked to the primary form of exercise. This assumption might lead to nondifferential misclassification of some cases. Hence they used a non-parametric, one-sample ordinal test of statistical significance, goodness of fit test, to evaluate the results and to form a perfect classification.

In order that instruction may be facilitated, it is often desirable to subdivide students into at least three instructional level, for example, beginning, intermediate, and advanced. If students are heterogeneously classified, it is difficult to gear the instruction so that it will not be too difficult for the least experienced or least talented students or too easy, and insufficiently challenging, for the best students. On the other hand, if students are homogeneously grouped into beginning, intermediate, and advanced sections of a beginning badminton section, for example, the ranges of abilities found within any of the groups will be much smaller; hence, the instruction can be more appropriate for each particular level. In utilizing such a grouping procedure, it is expected that upon completion of a beginning section of a particular activity, the students will have had ample opportunity to acquire necessary skills and knowledge that will permit them to function effectively on the intermediate level and to qualify subsequently for the advanced level. In most of the typical activities offered at a secondary school physical education program, there are several appropriate tests that can be used for classification purposes. Care must be taken to assure that the test employed is valid, and appropriate to the skill level. Or, if the teachers wish, they can use their subjective judgment, based upon careful observation of students participating in the activity, in order to determine appropriate levels of classification.

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13 Dona Schneider and Michael R. Greenberg, "Choice of Exercise: A Predictor of Behavioral Risks", Research Quarterly for Exercise and Sports, 63:3 (September 1992), 231-237.

To reinforce the point, Rikli, Petray and Baumgartner[14] in their study to determine the test-retest reliability for the 1 mile, 3/4 mile, and 1/2 mile distance run/walk tests for children in grades K-4 have indicated that the 1 mile run/walk distance, as recommended for young children in most national test batteries, had acceptable intra class reliability for both boys and girls in Grade 3 and 4, had minimal to acceptable reliability for Grade 2 students, but was not reliable for children in Grade K and 1. Results also had indicated that reliability estimates remained fairly stable across gender and age groups from the fall to spring testing periods, with the exception of the noticeably improved values for Grade 2 students on the 1 mile run/walk test. Results of the study also indicated that test scores for most age/gender groups, with some exceptions for ages 5 and 6 on the 1 mile test, were acceptably reliable in their classification of students with respect to meeting the standards of the Physical Best and FITNESSGRAM national test batteries.

1.5.2. Diagnosis of student needs and weaknesses

Tests may also be used to diagnose student weaknesses or needs. For example, a test of badminton playing ability may reveal an inability of the student to perform or execute certain basic strokes. One of these might be the deep-clear stroke. Noting this in the test, the instructor can provide appropriate drills and instruction to the student in order to develop or improve this particular stroke. A strength test may reveal that some students are weak in the shoulder girdle or in some other muscle group. The instructor can again ensure that these particular students will have an appropriate program of developmental exercise of the shoulder girdle to develop satisfactory strength in this area.

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14 Roberto E. Rikili, ClayrePetray and Ted A. Baumgartner, "The Reliability of Distance Run Tests for Children in Grades K-4," Research Quarterly for Exercise and Sports, 63:3 (September 1992), 270-276.

Graves[15] and others have asserted that the knowledge of previous test results can enhance performance during muscular strength testing. However, clinicians are often challenged to identify individuals who are unwilling to give their best effort during assessment. To determine whether measurement variability can be used as an index to identify submaximal lumbar extension efforts, and whether previous knowledge influenced this variability, they conducted a study on 9 men and 9 women. Resulting strength curves differed only at 36° of flexion. Through this study they could analyse the needs and weaknesses of the subjects before testing and emphasized the importance of previous knowledge for reducing variability during testing.

1.5.3. Evaluation of instruction

Often, instructors wonder whether they are successful in presenting subject material to their students; they would like to have some device to assure themselves that their instruction is satisfactory. One of the means by which one can ascertain instructional effectiveness would be to test the levels of ability of students after instruction. Instructors would then compare their group test scores with those of other instructors who had administered tests to other sections. If the student groups could be assumed to have been of equal ability at the beginning, then it might be reasonable to also assume that those instructors whose classes demonstrate greater ability at the conclusion of the activity have been more effective as instructors.

Weiss, Ebbeck and Rose[16] clarify that majority of studies have employed outcome measures such as time elapsed, correct sequencing, and number or percentage of

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15 James E. Graves, Greg Young, James Cauraugh, Linda Garzarella, David Carpenter, Scott Leggett and Michael L. Pollack, "Influence of knowledge of Results on Variability During Maximal and ubmaximal Isometric Lumbar Extension Strength Measurement," Research Quarterly for Exercise and Sport (Supplement) 63:1, (March 1992), A-51.

16 Maureen R. Weiss, Vicki Ebbeck and Debra J. Rose,"Show and Tell' in the Gymnasium Revisited: Developmental Differences in Modeling and Verbal Rehearsal Effects on Motor Skill Learning and Performance," Reseacrh Quarterly for Exercise and Sport, 63:3, (September 1992), 292.

skill parts performed correctly. Little research had investigated the observational learning process from a developmental perspective. They had studied performance versus learning and sequencing versus form scores. The results clearly demonstrated that performance and learning were facilitated among younger children when a verbal model and verbal rehearsal were provided. This study is a model to emphasize the evaluation of instruction.

It must be recognized, of course, that other factors could conceivably enter into the picture. Effectiveness of Instruction would not be the sole determinant of playing ability at the conclusion of an activity. However, upon repeated testing with a number of groups, if the groups of a particular instructor are, in terms of playing ability, consistently superior to those of another instructor, the conclusion could well be drawn that the first of the two instructors is more effective. Such testing will also reveal certain areas of the instruction that may not be as effective as other areas. For example, a knowledge test in badminton might reveal that students have satisfactorily learned the rules but have not fully grasped some of the concepts involved in doubles strategy. Information of this sort, gained from testing, could then be utilized by the instructor in planning the content of subsequent courses in badminton. The instructor would make every effort to make clear the strategies of doubles play and to question students more frequently to determine whether they are grasping the essentials of this phase of the game.

1.5.4. Evaluation of program

Skills and knowledge tests may be administered at the beginning of a block of activity in order to determine past knowledge and abilities acquired by students. This information will help instructors determine the point at which to begin instruction. For example, if students are totally unaware of the rules and play procedures, instructors may begin with this phase of instruction. If students have a fairly thorough knowledge of the rules, this aspect would not have to be emphasized, and more advanced phases of the game could be pursued. Similarly, if it were observed through testing that students in a beginning section of badminton had no previous background (i.e., did not know how to hold the racket, how to serve, the wrist action in executing the various strokes), then instruction would begin at the most basic stage.

Safrit and Looney[17] have critically analysed how do we encourage children to participate voluntarily in physical activity on a regular basis. This is a type of evaluation of instruction. Now that many physical educators and exercise scientists have reached a consensus on the appropriateness of setting criterion-referenced standards as indicators of minimal health-related physical fitness, these standards have become vehicles for judging whether children are fit. They agreed that labeling only those children meeting a high norm referenced standard as physically fit is unreasonable and at the same time they agree that to ignore norm-referenced data entirely as equally unreasonable. They support the use of criterion-referenced standards as indicators of health-related fitness. They argue that ideally these standards would reflect the child's health state as well as a reduction in the risk factors associated with several disease states. Once these standards have been identified and validated, then statements about a child's level of fitness and, presumably, his or her health, could be made.

1.5.5. Marking (grading)

One of the most important reasons for testing is to reveal students' performance levels, or, in other words, to ascertain the degree of achievement of program objectives by each student. This is not to suggest that test scores should be the sole determinant of student performance, but that they would be among the criteria utilized in determining a student's mark. In determining the degree to which students have acquired knowledge, written tests are probably one of the most efficient forms of evaluating student' achievement. Such is not necessarily the case used to determine how well a student can perform. An instructor can very well evaluate the student subjectively as the game is being played. Assuming instructors are experts, i.e., they have a thorough knowledge of the activities they teach, there is certainly no reason why they should hesitate to use their expert judgment, subjective in part though it may be, to evaluate student's achievement.

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16 Margaret J. Safrit and Marilyn A. Looney, "Should the Punishment Fit the Crime? A Measurement Dilemma," Research Quarterly for Exercise and Sport, 63:2, (June 1992), 124-127.

Nutter and Thorland[18] examined the relative importance of the body size and composition as determinants of individual differences in isokinetic leg extensor strength in young adult males performing a slow, moderate and fast speeds. They concluded that there was no advantage gained by expressing scores relative to body size in instances where it was shown to have relatively little relationship with strength.

1.5.6. Motivation

Bjornstal and Weiss[19] examined the effectiveness of visual and verbal models during the initial phase of complex sports skill acquisition in children. The potential application of the results of the study to the teaching and coaching situations are important as, the techniques used would act as a very strong motivational factor. Hence a careful attention to the presentation of the technically correct visual demonstration has to be paid so that learners are striving to match desirable performance form.

It has been noted widely that if teachers notify their students that a test is to be given at some future date, this notification tends to motivate students to prepare for the test so that they may compare more favorably with other students when tested. It is recognized, of course, that all students are not motivated equally; but testing serves as a very useful motivational device and tends to encourage students to try harder to increase their levels of performance and their breadth and depth of knowledge.

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18 June Nutter and William G. Thorland, "Body Components and Anthropometric Correlates of Isokinetic Leg Extension Strength of Young Adult Males," Research Quarterly for Exercise and Sport, 58:1, (March 1987), 47.

19 Diane M. Wiese-Bjornstal and Maureen R. Weiss, "Modeling Effects on Children's Form Kinematics, Performance Outcome, and Cognitive Recognition of a Sports Skill: An integrated Perspective," Research Quarterly for Exercise and Sport, 63:1, (March 1992), 67

1.5.7. Instructional device

Tests serve as very useful instructional device. If students are permitted to observe other students as they take a badminton skills test, they may learn how they can perform better. They may observe and learn from the errors and successes of those who precede them. Also after the test if the instructor reviews it, he can find out that the students are given an additional opportunity to learn. While reviewing if the errors are pointed out to students, they tend to avoid the errors on a second testing. When test papers are given to students, they note the mistakes they had committed and also get the correct answers for them. This form of review can be valuable aid in the process of learning.

The study by Cardinal and Sachs[20] demonstrated a discrepancy between the readability of exercise promoting literature and the public's mean reading level. They have used the study as an instructional device for researchers by strongly advocating the point that the utility of those materials might be limited and to maximise knowledge acquisition and potential behavioral benefits from exercise promoting literature, they had advised that the materials should be designed to match the needs and abilities of the intended audience.

1.5.8. Prediction

Because of the scarcity of tests that predict present and future performance levels, this type of testing is seldom used. More research is needed in this area of testing. The surface has only been scratched, and coaching of teams in various sports might be improved if coaches were able to predict which students will be among the better future performers. For example, freshmen, upon entrance into high school, may be among those late in maturing physically. In some sports, they may be too small to make freshman teams. If there were available, a valid test would predict whether they have

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20 Bradley J. Cardinal and Michael L. Sachs, "An Analysis of the Readability of Exercise Promoting Literature with Implications and Suggestions for Practice," Research Quarterly for Exercise and Sport 63:2, (June 1992), 186.

the potential to develop into excellent performers in later school years, then it would be to the coach's advantage to know this. As a result, students would have an opportunity to develop the requisite skills during the freshman year, even though they are withheld from competition. Students who are more mature upon entrance to high school may tend to dominate freshman teams, even though their long-range potential may be of a lower order.

Ainsworth[21] et.al., had used the data they collected through some questionnaires to predict the Cardiorespiratory endurance of the respondents. They had suggested that it was possible to predict cardiorespiratory endurance in adults by combining simple demographic variables and a single item about the frequency of strenuous exercise habits using a physical activity questionnaire.

Another aspect of this question is the prediction of performance on a given day. A baseball coach would not wish to use the best pitcher if he or she knew that on the scheduled day the pitcher, for some reason, would have an off day. Under these circumstances, it would be wiser to withhold this pitcher and to substitute another of somewhat lower overall potential. It is likely, on the subsequent day, that the pitcher originally scheduled might be predicted to perform at his or her normal level. A basketball coach could use such predictive test to determine which of the several players, of relatively comparable ability, to start in a given game.

1.5.9. Research

Research is a continuous, steadily increasing activity of physical educators. Tests may be utilized to determine which of two methods of instruction is better. Tests may also be used to determine which kind of student is likely to be a better performer in a given activity. Much important research can be conducted even by the teacher who has but an elementary knowledge of research procedures. Most of the research in

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21 Barbara E. Ainsworth, Mark T. Richardson, David R. Jacobs, Jr and Arthur S. Leon, "Prediction of Cardiorespiratory Fitness Using Physical Activity Questionnaire Data," Research Quarterly for Exercise and Sport (Supplement), 63:1, (March 1992), A-20.

physical education are tests of important skills that provide comparisons of instructional methods, procedures, and techniques. Test results, it retained over a period of years, may provide historians and other investigators with opportunities to compare such results in terms of trends, evaluation of progress, or identification of changes in emphasis and philosophy. A test is merely one form of measurement while measurement itself involves all the tools which may be employed in the collection of data. While test may be thought of being conducted in a formal manner, a measurement may be made formally as well as informally. Thus tests and measurements provide information about a specific act which has taken place at a specific time.

Organised Physical Education should aim to make the maximum contribution to the optimum development of the Individual's potentialities in all phases of life, by placing him in an environment which will promote the movement and related responses or activities, that will best contribute to this purpose[22].

1.6. PHYSICAL FITNESS COMPONENTS

We are aware of the fact that a person who is considered to be physically fit would normally perform any activity with ease and excellence. The components that are found inherent in such a fit person are strength, speed, power, endurance, flexibility, agility etcetera. The levels of achievement of such persons in any activity depend on the necessary fitness components. But the ratio of such components present in an activity depends up on the nature of activity. But agility, the ability to start suddenly, to stop suddenly and to change directions of movement and body position immediately, is considered to be predominantly present with any person doing any activity effectively and efficiently. It is felt that irrespective of the activity, a person should be agile to perform the activity efficiently.

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22 John E. Nixon and Anne E. Jewelt, An Introduction to Physical Education, (Philadelphia: W.B. Saunders Company, 1969), P68.

1.7. AGILITY

As a physical education teacher in a school, the investigator had problems of achieving his goal of teaching new techniques due to lack of agility in his pupils. Agility is the controlled ability to change position and direction rapidly and accurately. In any physical activity or in a game situation, the controlled ability to stop, to start and to change direction rapidly and more quickly, is a very essential factor and this quality decides one's performance level and the speed of acquiring any skill. The absence of that ability among the participants would spoil the original game score. It is the view of many persons that agility is a complicated phenomenon that could not be separately evaluated.

According to Kukushkin[23],

Agility is first of all, the ability to master new movements quickly and secondly, to regear motor activity quickly in correspondence with the requirements of the changing situation.

It is clear from the above that agility is a complicated and complex quality with no single criterion for its evaluation. In each case, depending on the condition, different measuring indicator has been chosen. But the investigator, after going through many books and periodicals, is of the opinion that the essentiality of the skill of moving the parts suddenly in a desired way could not be neglected and is firm that agility could very well be measured as a separate criterion.

23G.I. Kukushkin, Op.cit, P. 72.

Hilsendager, Strow and Ackerman's[25] Conducted a study to determine whether exercises designed specifically to develop strength and speed were as effective for improving agility as exercises specifically designed to develop agility. They had concluded that agility could best be developed in programs designed specifically for that purpose and consequently that a unique factor of agility does exist.

If agility is the contro lled ability to change position and direction rapidly and accurately, the ability of the performer may be influenced diversely by either a reaction of a known type and in a known direction, that is anticipated or a reaction of an undetermined type and in an unknown direction, to a set of stimuli that may vary widely and hence, be somewhat predictable or both. Examples for the above cases can be a sprinter reacting to the starting gun and a defensive half-back reaching to the changes in the speed or direction of a pass receiver respectively.

Bosco and Gustafson[25] opine,

Agility items are of three main types: 1)change of direction in running 2)change of body position; and 3)change of direction of body parts.

Taking into very careful considerations of great authors and researchers, the investigator had constructed a test for measuring agility, which involved all the requirements of an agility test and which could be conducted with ease and simplicity in the school surrounding. It is impossible to know how well one has done on a test unless his score is shown in relationship to others taking or having taken the same test. So, constructing a test alone will not serve any purpose. It is equally important to place a person who performs a test where he stands in relation to his mates. For this purpose,

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24 Donald R. Hilsendager, Malcolm H. Strow and Kenneth J. Ackerman, "Comparison of Speed, Strength and Agility Exercises in the Development of Agility," Research Quarterly 40 1, (March 1969), 71-75.

25 James S. Bosco and William S. Gustafson, Op Cit., P.112.

a scale of measurement for physical qualities becomes imperative. Such scales, constructed on the basis of medians or means and standard deviations of the normal probability curves of the selected population are called norms. Hence, the research scholar felt it necessary to compile norms for the new agility test.

1.8. NORMS

According to Bumgartner and Jackson[26] norms have many advantages over other standards. First they are unaffected by the performance of the group or the class being evaluated. Another advantage is that the new performance standards need not be developed each year, once norms are developed, they can usually be used for 2 to 5 years. Moreover, since the same standards are used to evaluate different groups or classes of students, the grades will have a high degree of consistency - a given grade indicating the same degree of ability for each group.

Normally in the construction of tests, norms are prepared from testing large sample of subjects for whom the test is intended. They represent the status of the specific population and provide a means for interpreting a person's score in relation to scores made by individuals in the population at large. In physical education, norms have been based upon various combinations of age, height and weight. Scales based upon percentile or standard deviation values of the normal distribution have been used extensively. Percentiles are the basis of norms for both AAHPERD Youth Fitness and AAHPERD Health Related tests. The percentile scale favours mediocre performance. It is comparatively easy for an individual to improve his percentile position in the middle of the distribution but very difficult to do at the ends as it is based on median only. Also, due to the inequalities in the scale value prevalent in the tails of the distribution, percentile may not be properly summed or average. Even then, the percentile norms have been published here for relative use of the testers.

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26 Ted A Baumgartner and Andrew S. Jackson, Measurement for Evaluation in Physical Education and Exercise Science, (Dubuque, Iowa: Wm.C. Brown Publishers, 1987), P 114.

In order to avoid short comings of the percentile scales, among number of scoring scales based on the properties of the normal curve that are in general use, the Hull Scale was also constructed. It is based upon the standard deviation difference which extends 3.5σ (sigmas) either side of the mean. It does not leave the ends of the scales unused. This is considered as a compromise between other scales based on mean and standard deviation. The occurance of an extreme score falling outside the scale is mor remote though an exceptional score can fall outside the scale.

For the convenience and the pragmatic application of the users of the new test, both Percentile constructed based on Median and Hull Scale constructed based on Mean and Standard Deviation, have been compiled.

1.9. NECESSITY OF A NEW TEST FOR AGILITY

There are many tests available now for measuring agility, but many of the tests do not contain the requisites to measure agility as a specific motor ability.

Illinois Agility Run[27] is representative of the many dodge runs that have appeared in the literature over the years. Many authors have advised to take the test barefoot and to have practice at least once slowly and once rapidly. Though it involves zig-zag running, it has the change of direction mostly on the right side only. The author of the test did not publish reliability coefficients for the age for which it was constructed but at later stages he had published for the reliability coefficient for the age group of 7-13 year old young boys. The validity work is lacking in this test. In the factor analysis study this test had been ranked third in measuring a 5-item agility factor and correlated .33 with a 30 item battery composed of many specific motor abilities.

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27 Thomas K. Cureton, Physical Fitness of Champion Athletes, (Urbana, Illinois: University of Illinois Press, 1951), p.68.

Burpee Test[28] has been attributed to Burpee, although it had been used as a calisthenic exercise for many years before and even now, and advocated its use as a four count squat thrust. Though the reliability and validity coefficients were established to a higher extent, it contains no running part and the change of direction, like many other tests. Its validity did not appear to be as high as common agility tests that included running.

Boomerang Run (Right)[29] was one of 16 agility items investigated in the original study. This study was selected by the scholar as an external criterion to validate his test. Though the author did not publish any reliability and validity coefficients, later many authors had reported the reliability of.92 for high school boys and girls and a validity coefficients ranging from .78 to .87 for junior high boys. Though this test was selected for validating the new test by the scholar, this test had change of direction on right side only and it lacked zig-zag running.

It had been found by researchers that the tests used to measure running agility presented a common measurement problem that the students learned to perform the tests with practice. It was also found that when more trials were administered, the best scores were achieved during the last two or three trials. As these tests were time consuming, it would not normally be possible to give more trials but the students should be given an opportunity for practice before the test or while other students were being tested.

The shuttle run Test found in the AAHPERD Youth Fitness Test, the lines were 30 feet apart and the subjects had to run across four times. This test involved running and change of direction but the change of body position was found to be absent though many students did it at the cost of their performance.

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28 Royal H. Burpee, Seven Quickly Administered Tests of Physical Capacity (New York: Bureau of Publications, Columbia University, 1940), p. 45.

29 Donald D. Gates and R.P. Sheffield, "Test of Change of Direction as Measurements of Different Kinds of Motor Ability in Boys of the Seventh, Eighth and Ninth Grades, "Research Quarterly, 11 (October 1940), 136-174.

Baumgartner and Jackson[30] had explained a test of agility called Zigzag Run Test Texas Test 1973) with the advice to have several trials for high reliability and to have several test courses to minimise time consumption. The scholar had selected this test as another external criterion to validate his new agility test since the validity had been found good and the norms for boys and girls of ages 10 through 17 were provided for easy comparison. It was found to be a good and a practical test.

1.10. REASONS FOR SELECTING THIS TOPIC

As a teacher of Physical Education in a school for the past 20 years, the research scholar has been very much involved with the children and has found it difficult to conduct the existing tests of agility and fit them in the norms provided by the authors. Since most of the tests have been constructed and normated on western countries, Indian children are not able to achieve the bare minimum of the scores in the norms.

Also, most of the tests that are available with us and explained above, do not involve either running, some of them do not involve change of body position and direction. Many of the tests have norms for American standards with which it is impossible to grade our children since a majority percentage of children do not reach the minimum standard of the normative structure. Hence the scholar has been motivated to construct a test for the measurement of Agility of Indian children and to construct norms for his test.

1.11. STATEMENT OF THE PROBLEM

The purpose of the study was to construct a test for the measurement of agility and to compile norms for Kendriya Vidyalaya boys of Chennai Region.

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30 Ted A. Baumgartner and Andrew S. Jackson, Op.Cit., P. 204.

1.12. HYPOTHESES

It was hypothesised that

1) the newly constructed Agility test might not be Reliable
2) the newly constructed Agility test might not be valid and
3) the newly constructed Agility test might not be Objective.

1.13. SIGNIFICANCE OF THE TEST

The test if proved to be reliable and valid, it would be:

1. a practical test of agility since it involves all the characteristics of movements that an agility test requires, like running, change of direction, change of body position etcetera.

2. easy to administer because the local school settings are sufficient and the materials required are easily available in the schools. The area of a Badminton Court would be sufficient for conducting the test and hence it could be conducted indoors.

3. adaptable for both sexes and most age groups since it does not take much energy of the participant as the testing time is very limited. No special warming up or practice are necessary.

4. inexpensive as no special equipments or costly materials are required to conduct this test.

5. suitable to Indian conditions and standards either on the facilities side or on the subjects' side.

6. Percentile Norms based on Median and Hull Scale Norms based on Mean and Standard Deviation have been presented for the selective and need based application of the users of the new agility test.

1.14. DELIMITATIONS

The study was delimited to the following aspect.

1. Four thousand eight hundred and forty eight male students only were selected from 42 Kendriya Vidyalayas of the Chennai Region for the study.

2. The boys selected from classes VI to X of age ranging from 11 to 15 years only were selected using simple systematic random sampling method.

3. The Reliability, Validity and Objectivity were only tested for the new agility test using two way intra class correlation methods and Pearson's Zero Order Correlation methods respectively.

4. The validation was done using concurrent validity procedures involving onlytwo criterion tests.

1.15. LIMITATION

The factors like habits, life style, routine, and diet were not taken into considerations while interpreting the results. All the subjects were treated to have the same atmosphere of living.

1.16. DEFFINITIONS AND EXPLANATIONS OF TERMS

1.16.1 Test

A test is a form of questioning and/or measuring used to assess retention of knowledge and capability or to measure ability in some physical endeavour. Measurement is an aid to the evaluation process in that various tools and techniques are used in the collection of data[31].

1.16.2. Agility:

Agility may be defined as the physical ability which enables on individual to rapidly change body position and direction in a precise manner.[32]

1.16.3. Norms

Norms are performance standards based on the scores of a group of people.[33]

1.16.4. Compilation of Norms:

The first step in developing norms is the administration of the test under the same conditions as much as possible for 2 to 5 years, until several hundred scores are collected. Those scores can be analyzed and used to develop norms that can be employed for the next 2 to 5 years. At the end of this time, several hundred more test

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31Barry L. Johnson and Jack K.Nelson, Practical Measurements for Evaluation in Physical Education (3rd ed), (Delhi: Surjeet Publications, 1982), P.2.

32. ibid.,

33 Ted A. Baumgartner and Andrew S.Jackson, Op.Cit., P.455

scores have been collected, and the test has to be renormed. The advantages of this procedure are numerous. Since the Norms are based on recent student performances, they are applicable to students currently in the class. The combined scores, collected in different years tend to cancel out any difference among in terms of the quality of the students, and thus represent typical performance. (Norms developed on the scores of the students from a single year were not representative if the students were not typical.) Because students and conditions change, norms should be revised every few years. And if major changes were made in the curriculum, norms may need to be revised.

Depending on the needs of the teacher, percentile-rank norms, T-score norms, or letter grade norms may be constructed. Probably because they are easier to explain to student and parents, percentile rank norms are used more often than T-score norms. Percentile -rank norms are easily understood and indicate how a student's performance ranks relate to his or her peers.

1.16.5. Kendriya Vidyalaya:

KendriyaVidyalayas are Schools governed by Kendriya Vidyalaya Sangathan (Central Schools Organization) with classes from First standard to Twelfth Standard with the same syllabus and curriculum throughout India. It caters to the needs of the children of the transferable Central Government Employees. Kendriya Vidyalaya Sangathan is on All India Autonomous body governed by Board of Governors with a chairman. It is financed by the Human Resources Ministry and is registered under the Cooperative Societies Act. The Sangathan (organization) is divided into various Regions according to the geographical areas of the country. The sangathan is academically and administratively headed by a Commissioner, Deputy Commissioners and Joint Commissioners.

1.16.6 Chennai Region:

Chennai Region is a part of KendriyaSangathan comprising the states of Pondicherry, Chennai and part of Kerala. It is governed by an Assistant Commissioner with the other administrative set up. It contains 51 Vidyalayas (Schools).

CHAPTER - II

Review of Related Literature

CHAPTER – II

REVIEW OF RELATED LITERARTURE

The research scholar is in full knowledge of the underlying importance of literature review and took pains to skim through references in search of studies, notes, points, definitions and opinions in support of the study. Such collected references have been presented in logical order, in order of importance and in sequence of merit.

While going through the previous studies of motor performance test and reading books of tests and measurements, he was confused with the terminology of 'Agility' since various authors used the terms coordination and dynamic balance synonymously with agility. There was also considerable disagreement in the literature as to the extent to which agility can be considered a 'pure' or 'separate' component of motor ability.

Bosco and Gustafson[1] categorized agility, basically into three types namely change of direction in running, change of direction of body parts and change of body psition. They presented Illinois Agility Run as a representative of the many dodge run tests that have appeared in the literature over the years with the comment that more work needed to be done to determine the relative validity of this particular test as a measure of agility.

The authors had also given Burpee Test, a four count squat thrust. They critically evaluated this test as a practical and reliable test of agility involving change of position but no running and that its validity did not appear to be as high as common agility tests that include running.

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1 James S. Bosco and William F.Gustafson, Measurement and Evaluation in Physical Education, Fitness and Sports, (Englewood Cliffs, New Jersey: Prentice _-Hall Inc., 1983), P.112.

One of 16 agility items investigated in the original study, Boomerang Run (Right), had also been explained. While most researchers expressed satisfaction over the reliability and validity of the test, the authors also appreciated this test as a practical, reliable, and reasonably valid test of agility that included running, easy to administer, inexpensive, applicable to both the sexes and fun to take.

The following study of Hilsendager, Strow, and Ackerman[2] removed the little confusion the researcher had and the thinking that Agility could be tested as a separate criterion set in firmly. The purpose of the study was to determine whether exercises designed specifically to develop strength and speed were as effective for improving agility as exercise designed specifically to develop agility. The 83 male University subjects were separated into five groups with one group each participating in exercise designed to improve agility, speed, strength, speed and strength, and the remaining group participated in lectures. Thirty one tests were administered before and after participation in six week programs, and the data were analyzed by the analysis of covariance technique. The groups participating in agility exercises demonstrated statistically significant superiority over one or more of the other groups on four of the seven agility tests. The only other groups which demonstrated superiority on any of the agility test were the speed group on the 10 second squat thrust test and the control group on the right boomerang run test, thereby leading to the conclusion that agility could best be developed in programs designed specifically for that purpose and consequently that a unique factor of agility did exits.

Arnett[3], in her study listed the components which contributed to motor fitness, namely, Strength, Speed, agility, endurance, Power, Balance, Flexibility and

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2 Donald R. Hilsendager, Malcolm H. Strow, and Kenneth J. Ackerman, “Comparision of Speed Strength and Agility Exercises in the Development of Agility”, Research Quarterly, 40:1, (March 1969), 71-75.

3 Chappallee Arnett, “The Purdue Motor Fitness Test Batteries for Senior High School Girls”, Research Quarterly, 33:3, (October 1962), 323.

accuracy. The following items pertaining to the components were selected for their content validity and suitability: Bench pushups, modified pull-ups, sit-ups, 50 yard dash, shuttle run, 600 yard run, standing broad jump, vertical jump, balance on Stick, soft ball throw for distance, standing, bending reach, and larger throw.

Going[4] emphatically explained the usefulness of a test as, to be useful, a test or test item must have validity. It must measure that it purported to measure. To be valid, to be objective, and relate logically to the purpose of the test as a whole. In the same way many authors were of the opinion that a test must be reliable, valid and objective. Only then the test would be useful and purposeful.

Safrit[5] opined that before placing any faith in the test results, it must be certain that the test was a good one; the test should measure (validity) with consistency (reliability), using an accurate scoring system (Objectivity).

Scott and French[6] explained that the ideal method of ascertaining the reliability of the separate items was to administer each in identical form on two successive days and to correlate the results. If the test was measuring consistently, it should yield a very high co-efficient {in the 0.90's).

Reliability refers to the degree to which a test consistently measures a given factor. The reliability may be spoiled by inconsistent scoring or timing, inconsistent performance by the subject and inability of the instrument to measure consistently. Therefore it becomes essential for any fest constructed that it is tested for its reliability.

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'Scott Going, "Physical Test - Body composition in the Assessment of Youth Fitness", Journal of Physical Education, Recreation and Dance, 59:7, (September 1988), 32.

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Margaret J. Safrit, Introduction to Measurement in Physical Education and Exercise Sciences, (Saint Louis: Times Mirror/Mosby College Publishing, 1988), 2118.

6
M. Gladys Scott and Esther French, Measurement and Evaluation in Physical Education (Dubuque, lowa: Wm.C. Brown Company Publishers, 1986), P85.

Out of several methods available to calculate reliability, test-retest method is considered to be the best method for activity based on scoring. Normally, the coefficient is calculated by correlating the scores obtained by subjects on two administrations of the test.

Fox[7] computed reliability coefficients in his study by correlating the scores of various trials on the test. The first trial was correlated with the third and the second with the third using Pearson's product Moment Correlation method.

Liba and Stauff[8] in their study to develop a test for the overhead pass in volleyball, administered the test to college women and a similar test slightly modified to junior high school girls. They defined desired height and horizontal distance and used ropes and floor target for assessment. Reliabilities were determined by analysis of variance procedures, Reliability estimates for 5, 10 and 20 trials administered on one day or more days were presented. The test is claimed to measure certain defined aspects of a Volleyball pass and therefore, had local validity.

Russell and Lange[9] worked with achievement test for juniors high school girls. The selected the repeated volleys test and the serve test from the French and Coopers battery. The volley test was modified to involve three trails of 30 seconds. The reliability computed on two trails five days apart was 0.87 for the best of three trails and was 0.90 for the sum of three trials. Seven judges used a four point scale from excellent to poor in the validity studies rating 66 players during tournaments play. The validity correlation ranged from 0.61 to 0.67 but when correlated for attention and random errors were 0.63 to 0.80.

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7 Margaret G. Fax, “Swimming power Test”, Research Quarlerly, 28:3, (October 1957), 233-237.
8 Maire R. Liba and Marilyn R. Stauff, “A Test for the Volleyball Pass”, Research Quarterly, 34:1, (March 1963), 56-63.
9 M.Russel and E. Lange, “Achievement Test in Volleyball for Junior High School Girls”, Research Quarterly, (December 1940), 31-41.

Skubic and Hodgkins[10] conducted a study in order to find a test of cardiovascular fitness for girls and women which could be quickly and easily administered. The Harvard Step Test was modified in various ways and then subjected to analysis for reliability and validity. It was found that a three minutes test, using an eighteen inches bench and a stepping rate of 24 steps per minute was both reliable and valid and that clearly differentiated among females who were in a highly trained: state, those who were moderately active and those who were sedentary.

Cunningham and Garrison[11] attempted to obtain a valid and reliable test for measuring the volleyball playing ability of college women. The reliability of Liba and Stauff passing test had been established previously. A correlation coefficient of .87 indicated a sufficiently high reliability for the high wall volley test. The validity coefficient of 0.72 for the high volley test using the better of two 30 seconds trials was significantly higher than the .60 for the passing test. On the basis of these findings, and a comparison of the findings with the results of the only other study with the same purpose that had been reported since the change of the single hit game, the high wall volley testing using the better of two 30 seconds trials appeared to be most valid and reliable test available for measuring the volleyball playing ability of college women.

Hewitt[12] explained the need of a test as teachers frequently needed tests to classify students into rough homogeneous groups. A classification test that could quickly be given on a tennis court to segregate ability in tennis from low to high was a valuable aid to the teacher. Since blackboards and walls were not always available in many schools teaching tennis, these two tests were constructed for use on a tennis

10 Vera Skubic and Jean Hodgkins, “Cardiovascular Efficiency Test for Girls and Women”, Research Quarterly, 34:1, (May 1963), 191-198.
11 Phyllis Cunningham and John Garrison, “High Wall Volley Test for Women’s Volleyball”, Research Quarterly, 39:3, (October 1968), 486-490.
12 Jack E. Hewitt, “Classification Tests in Tennis”, Research Quarterly, 39:3, (October 1968), 552-556.

court. Both were found after a battery of tests, to have a possible relationship to skill and ability in playing tennis, and were valid enough to warrant use as a rough classification device.

Kemp and Vincent" constructed a Tennis skill test to overcome the criticism of available tennis skill tests that the tests did not measure skills under game conditions, required the use of special equipments or line markings and the time involved in their administration was prohibitive. In the test, the students rallied as in a game situation, a relatively short time period was involved and no special equipment or line markings were needed. Two forms of validation of the Kemp-Vincent Rally Test (KVRT) were employed. In the first, 54 men and women players were ranked according to round robin tournament play in two instructional classes. Thirty of these were intermediate players, and 24 were beginners. The KVRT scores for these players were ranked from high to low; the Spearman rho rank - difference correlation test was applied to the tournament ranks and the KVRT scores to yield a validity coefficient of .84 for the beginner group and .93 for the intermediate players. In the second validation of the test, 362 men and women students served as subjects using the lowa Modification of the Dyer test at the next class meeting. Using the Pearson's product - Moment Correlation Method, the validity coefficient for the total group was .80.

Kammeyer[14] asserted that there was always a definite need for a reliable and valid test, easy to administer and score, which could be used to classify students for instruction. When students were grouped for instruction according to a predetermined level of ability, and the teaching could be directed to this level of ability, the students should gain more from their learning experience. Closely allied with the students learning experience was the degree of motivation. When success was

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13 John Kemp and Marilyn F. Vincent, "Kempt-Vincent Rally Test of Tennis Skills", Research Quarterly, 39:3, (December 1968), 1000-1004.
14 Shirley J. Kammeyer, "Reliability and Validity of Motor Ability Test for High School Girls", Research Quarterly, 27:3, (December 1963), 310-315.

expressed, motivation for continued effort was greater than if failure was always was the end result of participation. A classification of students as to general motor ability could facilitate a more efficient evaluation of progress in athletic activities. Hence this test was meant to be used for classification purpose.

The purpose of the study was to determine the reliability and validity of an adaptation of the Humiston Motor Ability test when used with high school girls. The reliability was determined by correlating I and II trials and III and IV trials. Secondly correlations were made with the best of I and trials and the best of III and IV trials. Two criteria were used in the validation of the test, one was based upon achievement in a battery of skills and the second athletic participation.

Clifton[15] developed a single hit volley test to evaluate the volleying ability of college women students in volley pass, the highest validity coefficients were at the 7 feet line for trial I and the sum of trials I and II with no significant difference found between these validity coefficients. A sufficiently high reliability coefficient of .83 was found for the sum of trials I and II at the 7 feet line and when compared with reliability coefficients of .67 for trial I at the 7 feet line was found to be significantly higher.

Manahan and Gutin[16] investigated the validity of several different types of step tests in predicting the ability of ninth grade girls to perform the 600 yards run. The Skubic Hodgkins test, in which heat rate was taken 60-90 seconds after sleeping up at 24 steps per minute for three minutes, was given. Recovery heart rates from 5-20 and 25-40 seconds past exercise were also taken. The other tests utilized required the subjects to give an all out effort. Total repetitions completed constituted the score. These were one and two-minute two count step-ups and one and two – minute four counts

15 Margaret A. Clifton, “Single Hit Volley Test for Women’s Volleyball:, Research Quartely, 33.2, (May 1962),208-211

16 Joan E. Manahan and Bernard Gutin, “ The one Minute Step Test as a Measure of 600 yard Run performance”, Research Quarely, 42:2, (May 1971), 073-177.

step ups. The three recovery hear rates were significantly related to the 600 yard time. Test – Retest reliability coefficients were determined for the two one minute tests, which were most closely related to running performance. It was concluded that the one –minute-two counts step – up test was a valid and reliable measure of 600 yard run performance in junior high school girls.

Francis and Cuipepper[17] illustrated that single stage test was widely used to estimate an individual's maximal aerobic capacity. Because biomechanical efficiency and workload was influence step height, normalization of step height, based on an individual's statute height, should compensate for anatomical difference in height and provide a better estimation of VO2 max. This study described the normalization on step heights for step testing in 30 healthy college females.

Step height = (0.0187 x statute height). A significant correlation coefficient of .70 was obtained between VO2 max determined directly from a maximal exertion tread mill test and recovery heart rate counts obtained following stepping,. The data indicated that the model was valid in assessing aerobic capacity and provided an alternative to other step test protocols that did not account for anatomical differences in subject heights.

Nakao18 and others aimed at developing simple methods for estimating leg muscular enduarance and adopted the half squat method for knee extension and the calf rise method for planter flexion. Their validity was examined. The major contractile muscles involved were analogous to those in ergometric methods, according to EMG. There were significant correlations between the values obtained from these simplified methods and those from ergometric methods. Those simplified methods were

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17 Kennon Francis and Michael Cuipeper, "validation of a Three Minute Height – Adjusted Step Test". The journal of Sports Medicine and physical Fitness, 28:3 (September 1988), 229-233.

18 Mikio Nakao et.al., "Simple Methods for Measuring Leg Muscular Endurance", The journal of Sports Medicine and physical Fitness, 26:3, (September 1986), 285-291 .

favourable for small children and the aged, and enabled many subjects to be tested simultaneously without any equipment other than a stopwatch.

Kurucz, Fox and Mathews[19] conducted a study to develop a submaximal cardiovascular step test to be used with men between ages of 18 and 60 years. To test the reliability, twenty four of 75 subjects randomly selected repeated the test on successive days. To establish validity. Thirty of the 75 subjects randomly selected repeated the test on successive days. To establish validity, thirty of the 75 subjects randomly selected were tested on Blake treadmill test which was used as a criterion measure. Just like agility, various fitness components like power, strength etcetera were measures as independent components.

Gray, start and Glencross[20] constructed a test of leg power with 80 male teachers college student of age seventeen to twenty two years of five groups of strength ten to nineteen men. To establish the reliability, they had used test-retest method and the objectivity was established using the analysis variance.

Clarke and schopf[21] constructed a strength test for boys nine to twelve years of age in grade 4, 5 and 6 based upon cable tension strength tests. From 18 cable tension strength tests, the following four were selected by multiple correlation procedures: shoulder extension. Knee extension, trunk extension, and ankle planter flexion. The total of these four tests were designated the strength composite. Norms were prepared on age and weight, utilizing Roger's method in the construction of strength index norms, the subjects were 826 boys from ten communities located in various parts of Oregon. A

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19 Rober L. Kurucz, Edward L. Fox and Donald K. Mathews, "construction of a submaximal Cardio – Vascular Step Test", Research Quarterly, 40:1, (March 1969), 115-122.

20 B.K. Gray, K.B. Start and D.J.Gleancross, "A Test of leg power", Research Quarterly, 33:1, (March 1962), 44.

21 H. Harrison Clarke and Theodore G. schopf, "Construction of a Muscular strength Test for Boys in Grade 4, 5 and 6", Research Quarterly, 33:4, (December 1962); 515.

strength quotient was derived by dividing the achieved by the norms strength composite and multiple by 100

Clarke and Clarke[22] were of the opinion that it was now recognized that the product Moment Correlation had inadequacies when used as a test reliability coefficient. It was limited to a situation where there were only two scores per person. The intra class correlation allows for measures beyond two. The computation of the intra class correlation coefficient was an extension of the analysis of variance process.

Safro[23] also explained that the intra class correlation coefficient, k now as RXX, was estimated by calculating on analysis of variance. Generally rXX' and RXX' were interpreted similarly. However, RXX' was a more accurate estimate of reliability for two reasons. One, it was not necessary to reduce the trials to two sets to calculate Rxx^1. That was important because many tests of motor skill consisted of more than two trials. A major portion of the test error could occur among trials, but this would not be detected when rxx' was used. Second, if trial scores increased or decreased systematically, that should lower the reliability of the test. Yet, these changes did not affect rxx^1.

Baumgartner and jackson[24] had given another way of analyzing the data and calculating an intra class correlation coefficient. Suppose that 'k' scores were collected for each of 'n' subjects, the scores collected in 'k' days or 'k' trials. If the 'F' was significant, there was a real, or true difference among the trial means. If the 'F' was non-significant, the difference, but rather a chance one. They had also given four best ways of analysis through two way ANOVA intra class correlation,

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22 H.Harrison Clarke and David H.Clarke, Application of Measurement to physical Education (V led), (Englewood Cliffs, New Jersey: prentice Hall Inc., 1987),p.48.

23 Margaret j. Safrit, Op.Cit., p.133.

24. Ted A. Baumgartner and Andrew S.Jackson, Measurement for Evaluation in physical education and Exercise Science, (Dubuque, Iwa: Wm.C.Brown publisher, 1987),pp. 101-102

Hence, to establish the reliability of the newly constructed test, it had been decided to take minimum three trials in the test and to calculate the two Way ANOVA intra class correlation coefficient to avoid any possible error due to systematic variation of scores, in the present study.

To Whitney and Smith[25] IT seemed evident that the practice of using the 'best' of several performance scores in preference to using the individual overages did not rest on a sound foundation. In strength test, as well as in the vertical jump. The individual score should consist of the average of the several available trials.

But, Berger and Sweeney[26] disagreed with the above opinion. The purpose of their study was to determine the relationship between two average score, two best scores, and an average and best score under different conditions of variability. Correlation coefficients between the scores and between the groups were found to be significant at. 01 level. So they concluded that the decision to choose an individual's best score or average should be based on the degree of variability between all scores relative to the average amount of variability within subjects. The greater the variability between scores relative to the variability within individual scores favoured selecting the best score rather than the average score. The opposite selection might be made when the variability between all scores approached the average variability within individual scores.

Mcgraw and Mcclenney[27] conducted a study to investigate the reliability of various methods of administering selected strength items frequently included in physical fitness batteries. Specifically, the purpose was to compare the reliabilities of using one

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25 J.D. Whitney and L.E.Smith, "larger Correlations obtained by using Average rather than 'Best' Strength Scores", Research Quarterly, 34:2, (May 1963), 248-249.
26 Richar A. Berger and Arthur B. Sweeney, "Variance and Correlation Coefficients", Research Quarterly, 36.3 (October), 368-370.
27 Lynn W.McGraw and Byron N.McClenney, "Reliability of Fitness Strength Tests", Research Quarterly, 36.3, (October 1965), 289-295.

trial, the better of two trials, and the average of two trials obtained on separate days in administering push-ups, pull-ups, and sit-ups. Data had been obtained by separate days to 152 boys at elementary, levels. Data from each of the sub groups and the total groups were examined through the use of trend analysis, coefficients of correlation and t-ratio of the difference between means on the various trials. It was summarized that the extent of variation of individual subjects from day to day was such that one should be extremely cautious in accepting the scores of a single student as a measure of his fitness.

Baumgartner[28] in his article proposed to acquaint researches with the use of Test-retest method, split half method, and intra class correlation method to estimate the Reliability of a multiple trial test when all trials were administered on the same day, and the criterion measure for test, when the test-retest method, split – half method, or intra class correlation was utilized, he suggested that the intra class correlation method was the best method since three different sources of variation in test scores allowed for when computing 'R' and considerable flexibility was allowed in selecting the criterion score.

Above all, for any one to perform in a better way in any test or a competition, he should have concentration on the event.

Helfrich[29] narrated that concentration was fundamental and important mental skill which must be learned by all aspiring competitive athletes if any want to perform to their potential. Concentration could be defined as being aware of only the present. When player's main goal in competition was to win, since winning was his main concern, his mind naturally though about the score and the points he was making

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28 Ted A. Baumgartner, "Estimating Reliability when all Test trials are Administered on the same Day", Research Quarterly, 40:1 (March 1969), 222-225.

29 Janet S. Helfrich, "Learn to Concentrate", Athletic journal, (December 1986), 50-51.

instead of his performance. This, of course, was the reason why many promising athletes never became champions. While competing they were thinking about the future, instead of focusing their concentration on their present performance and playing to their potential.

Looney, smith and syamal[30] conducted a study to use generalizability theory with both univariate and multivariate approaches to examine reliability of total body centre of mass values collected from cenematographical data. In this study, in order to compute reliability index, estimate of universe score variance and absolute error variance was used as the estimate of error variance. Every variance component except variance due to subjects was considered as error. They had impressed that the major advantage of conducting multivariate generalizability was being able to look at the covariance of error components. The results of the study indicated that there was very little error attributed to the occasion (repetition; subjects by repetitions). The percentage of total variance attributed residual error (subjects by repetitions by plotters interaction confounded with random and unexplained systematic error) was very small. Investigation of the variance-covariance matrices systematic error) was very small. Investigation of the variance-covariance matrices of the multivariate generalizability study provide some additional information that the source of error that had not been identified was operating on x-and y – coordinates in the opposite direction or in the same way.

Looney and Plowman[31] outlined and discussed the necessity of looking more closely on at the values of the criterion cut-off scores and Suhad suggested that two approaches might be taken in attempting to validate cut-off scores. In the first, a

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30 Marilyn A. Looney, Sarah L. Smith and Syamala Srinivasanm “Establishing Reliabilty of Biomechanical Data using Univariate Aprproaches, “Research Quarterly for Exercise and Sport, 61:2, (June 1990), 154 .

31 Marily, A. Looney and Sharon A. plowman, “passing Rates of American Children and youth on Fitnessgram Criterion-Referenced physical Fitness Standards, “Research Quarterly for Exercise and sport, 61:3 (September 1990), 215 .

true criterion standard was known and that required both an established criterion test and a value that had been shown to correctly classify individuals. When this technique was used, the same individuals were tested on both the criterion test and a field or "decision" test, and various scores on the decision tests were statistically analyzed to find the most accurate cut-off score. They also suggested another technique for the flexibility and muscular strength/endurance items that required to have two diverse groups of individuals. One group was the instructed group. This group had been trained in or taught the trait under consideration and should score high (i.e., to show mastery) on any valid test of that trait. Conversely, the uninstructed group had not been taught or had not practiced the trait and should score low (i.e., to show no mastery) on any valid test of that trait. As in all measurable physical variables the frequency distribution of the scores of both the instructed and uninstructed groups would be expected to describe individual normal curves. However, since the groups should be dissimilar, the degree of overlapping of the two normal curves should not be great. The point of intersection of the two curves was taken as the suggested criterion cut-off score.

Gross, et.al[32] made a study with a purpose of examining the reliability of the Seven-Day Physical Activity Recall interviews after a structural training programme. Twenty one volunteer interviewers participated in a five-session group training programme that targeted standardized interview techniques and scoring procedures. Interviewers scored eight videotaped interviews on two occasions to assess scoring skills. Across all videotapes and interviewers, the test-retest reliability was .99. Two interviewers independently interviewed the same person on the same day, and the reliability of kilocalorie expenditure across interviewers was .86. It was concluded that naive individuals can be taught to reliably conduct and score the Seven-Day Physical Activity Recall interview in a brief training programme.

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32 Lisa D. Gross, James F. Sallis, Michael J. Buono, Julia J. Roby and Julie A. Nelson, "Reliability of Interviewers Using the Seven-Day Physical Activity Recall," Research Quarterly for Exercise and Sport, 61:4 (December 1990), 321-325.

Jablonowsky[33] et.al., examined the reproducibility and validity of computerized muscle strength and endurance evaluation protocols using the Ariel Computerized Exercise System (ACE). Since the ACE had only recently become commercially available, there were no published normative data for various exercises, nor were the measurements' accuracy and validity for the various exercise protocols documented. Twenty males (17 to 30 years old) performed a set of isokinetic maximal leg and arm exercises on the ACE Multi Function Unit twice on separate days. Test-retest correlation coefficient ranged from 0.44 (bench press) t0 0.91 (bench pull and leg extension flexion). Thirty additional male subjects (16 to 31 years old) performed, on two separate days, the Wingale Anaerobic Test (WAnT) (leg), and various force and endurance leg exercises (squat) on the ACE. Correlation coefficients of the various performances indices between 2 test systems ranged from -0.02 to 0.23. The results obtained on the ACE indicate moderate to high reproducibility and low concurrent validity with WAnT.

Chow and Louie[34] in their study compared the utility of the trials-to-criterion (TTC) and sequential probability ratio (SPR) tests in relation to the conventional approach of a preset trial length test in terms of domain score and reliability estimate. Comparisons were also made in terms of percent savings of trials between the TTC or SPR and preset trial-length tests. A secondary purpose was to examine the effects of varying task difficulty on the reliability estimates using the three tests. A Volleyball overhead pass test was administered to 147 college students. The subjects took at least 30 trials but no more than 50 trials on each of the two days of testing. Each day the subjects were classified into masters, nonmasters, or undecided categories based on the TTC, SPR, and preset trial length tests. The unbiased domain score estimates for each subject and the

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33 R. Jablonowsky, O. Inbar, A. Rothstein and G. Tenenbaum, "Evaluation of Anaerobic Performance Capacity by the Isokinetic, Ariel and Computerized Exercise System Reliability and Validity," The Journal of Sports Medicine and Physical Fitness, 32:3 (September 1992), 262.

34 Bik C. Chow and Lobo H. Louie, "Comparison of Domain Score and Reliability Estimates Using Trials-to-Criterion, Sequential Probability Ratio, and Pre-set Trial Length Tests," Research Quarterly for Exercise and Sport, 63:1 (March 1992), A-50.

proportion of agreement (P) and kappa (K) reliability estimates of classification decisions for each test were calculated. The data were re-analyzed using a trial criterion that defined an easier task. The means of the domain score estimate's between the TTC and preset trial length tests as well as between the SPR and preset trial length tests were found to be significantly different. The correlation coefficients between the domain score estimates for the TTC and Preset trial length tests were higher than the coefficients between the estimates for the SPR and Preset trial length tests. The average absolute deviation (AAD) values of the domain scores between the TTC and preset trial length tests were smaller than those between the SPR and preset trial length tests. The TTC was found to have greater percent savings of trials at lower criteria of successes levels. Thus, the TTC seemed 1o be a better test than the SPR as a domain score estimator. But the SPR test was found to exhibit the highest P reliability estimates while the TTC test had the lowest P reliability estimates, The K estimates were found to be unstable. When an easier task was defined by using another set of trial criteria, higher P and K reliability estimates for the three tests were found.

Masters, Ogles and Jolton[35] reported the development of an instrument to assess the motives of marathon runners. The Motivation of Marathoners Scales (MOMS) contained 56 items distributed across nine scales. Content areas covered included health orientation, weight concern, self-esteem, life meaning, psychological coping, affiliation, recognition, competition, and personal goal achievement. Adequate internal consistency (Cronbach's alpha range .80 1o .93, retest reliability (intra class Rs range .71 to .90), and factorial validity of the scales were demonstrated. Assessment of the relationship between individual MOMS scales and other variables of conceptual relevance documents early evidence for the convergent and discriminant validity of the instrument.

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35 Kevin S. Masters, Benjamin M. Ogles and Jeffrey A. Jolton, "The Development of an Instrument to Measure Motivation for Marathon Running: The Motivations of Marathoners Scales (MOMS)," Research Quarterly for Exercise and Sport, 64:2 (June 1993), 134.

The predominant use of criterion-referenced measurement in physical education was to classify examinees as masters or non-masters in a psychomotor skill. Kajohn et.al.[36] studied 111 college students enrolled in the beginning tennis classes at a large midwestern university. The collection of data was incorporated into the normal skills testing procedures conducted in each class and was approved by the departmental human subjects committee. Because the data were collected as a part of the normal evaluation procedures for each class, informed consent was deemed unnecessary.

Although prior tennis skills were reliable and valid, they generally required an excessive amount of time for set up and administration and some required the use of equipment not readily accessible to the typical physical educator. The primary purpose of the development of a tennis skills test battery was to produce skills tests that possessed minimally acceptable validity and reliability and could be set up and administered in a reasonable time. The range of intra class reliability coefficients was .69 fo .86. Concurrent validity coefficients were determined by correlating the performance scores with subjective rating of experts for each skill test. Those coefficients ranged from .65 to .83. Based on the results of the study, it was concluded that the CG method of analysis provided a performance standard hat was more valid and reliable than the performance standard from the BG method.

Motor learning and control theorists offered a variety of definitions for “skill.” Despite the contrasts between their definitions, most conceptualizations infered some change in movement which accompanied improvement of performance. Change in movement may be interpreted to mean differences in how body segments relate to one another, and/or differences in values assigned to participating segments. In the past, the majority of tasks utilized to investigate motor learning had required only the scaling of an already established pattern of movement. That is, change in movement had been restrained to differences in values assigned to segments.

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36 John C. Kajohn, Kent Wagoner, Long-Guang Gao, Margaret J. Safrit, and Nancy Gatchell, ”A Comparison of Two Criterion-Referenced Standard Setting Procedures for Sports Skills Testing,” Research Quarterly for Exercise and Sport, 63:1 (March1992), 1-9.

Two factors common to methods of teaching motor skills were demonstration and practice. Demonstration referred to instruction that presented only what the student needed to do. Practice was, without doubt, the single most important ingredient necessary for improvement of performance. The purpose of the investigation of Southard and Higgins[37] was to determine the effects of practice and demonstration on the striking pattern of the upper limb and whether such changes, if any, represent an increase in functional degrees of freedom within the system. A 4 X 2 (Groups X Tests) factorial design was utilized to determine main effects and interactions of independent variables on dependent measures. Pretest results showed no significant change in elbow and wrist joint angles from arm reversal to impact with the ball. They had concluded that understanding how the movement ought to be performed was not sufficient to instigate change from a constrained pattern of movement. The meta-analysis model was well known to scholars in physical education as a framework for investigating the generalizability of results of research reported on a specific topic. This model had been applied to several areas of research in physical education. The methodology involved standardizing the results of each study conducted on a research problem by dividing the effect size by standard deviation of the dependent variable. These standard results were then summarized to obtain a composite overview of all studies of the problem of interest. Other factors, such as sample size, that might bias the results of a study could also be taken into account. The meta-analysis approach allowed an investigator to generalize the results of more than one study, thus providing stronger support for conclusion drawn within a theoretical framework.

The validity generalization model had been used in a number of large-scale studies in which tests were used to select employees. Since individual studies of the predictive validity of a test often yield conflicting results, it was not uncommon for measurement specialists to discuss test validity as situation specific. This meant that the

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37 Dan Southard and Thomas Higgins, "Changing Movement Patterns: Effects of Demonstration and Practice," Research Quarterly for Exercise and Sports, 58:1 (March 87), 77-80.

validity of the test must be determined for each situation in which it would be used, since the estimate might not be appropriate for any other situation. The net effect of such a conclusion was that endless studies must be conducted in validating a test. The validity generalization model had however modified the situation specificity.

Safrit, Costa and Hooper[38] in their simplified example using criterion related validity studies of distance run tests and maximal oxygen uptake, a criterion measure of cardiorespiratory function, three artifacts accounted for 75% of the variance of the observed validity coefficients. These artifacts were sampling error, test unreliability and criterion unreliability. Of the three, sampling error accounted for approximately half the residual variance (i.e., variance due to artifacts). Although the null hypothesis was not precisely verified in this case, since the difference between the artifactual variance and the total variance was .066786 rather than zero, the modified rule was met. That is, over 75% of the variance could be attributed to the artifacts. Had it been possible to quantify the other artifacts, the residual variance might well have been zero. If these results had been obtained in a large-scale study, it would be appropriate to report that the validity of distance run tests for college women could be generalized across settings. The mean true validity, with artificial variance taken into account, was .740. This was the generalized validity coefficient for distance run tests for college women.

Gutin, Manos, and Strong[39] stated that the idea that health was not merely the absence of disease was incongruent with the criterion-referenced standards for the health-related fitness tests. Yet a basic assumption was that one could find a value at or above the level necessary for good health, using published data on things such as the relation of aerobic fitness to morbidity and mortality in adults.

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38 Margaret J. Safrit, M. Glaucia Costa, and Linda M. Hooper," The Validity Generalization Model: An Approach to the Analysis of Validity Studies in Physical Education," Research Quarterly for Exercise and Sport, 57:4 (December 1986), 288-297.

39 Bernard Gutin, Tina Manos, and William Strong," Defining Health and Fitness: First Step Toward Establishing Children's Fitness Standards," Research Quarterly for Exercise and Sports, 63:2 (June 1992), 128-131.

Aerobic abilities were basic to success in many sports, and successful sport participation enhanced physical self-efficacy. Anaerobic muscle building activities enhanced fat free mass, which was in turn related to resting metabolic rate and the thermic effect of food and might contribute to long term weight control. Strength training led to enhanced bone density, which was associated with lower risk of fractures. They concluded that for the purpose of setting policy and developing curriculums, which was implied by the question of whether our children were fit, we could look to studies that compared different countries, different regions within a country, different ethnic or age groups, secular trends and so on. For purpose of individual assessment and motivation, we could look to studies that showed how much change in the particular parameter was possible as a result of increased physical activity before labeling a specific child unfit. In light of the substantial hereditary influence on performance, for individual children it might be more sensible simply to use raw or age/sex standards scores to chart the child's progress rather than comparing the child to norms.

The purpose of the study of Jackson, Solomon, and Stusek[40] was to investigate the reliability and validity of the one-mile walk as a field test of aerobic capacity, and to develop norms for this test for young adults. The reliability and validity sample included 41 males (n=21) and females (n=20) with an age group of 19-32 years. They performed a treadmill stress test to determine peak O_2 consumption and 3 trials of a maximum one-mile walk on an indoor track. The mean trial performances were used for statistical analysis. The alpha reliability estimate was .96 but a significant trend was present. Trials 2 and 3 had a reliability estimate of .95 with no trend. The $\underline{r}$ between trial 3 time and peak O_2 consumption was -.57. When the Rockport prediction function using age, weight, gender, one-mile walk and ending heart rate was used to predict peak O_2, the $\underline{r}$ improved to .66. The normative sample included males (n=400) and females (n=426) with an age range of 18-30 years. They performed a practice trial of the one-mile walk followed by a performance trial. The percentile norms was constructed.

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40 Allen Jackson, Jeffrey Solomon, and Mary Stusek, "One-Mile Walk Test: Reliability, Validity, and Norms for Young Adults," Research Quarterly for Exercise and Sports (Supplement), 63:1 (March 1992), A-52.

Over the years, many test batteries had been developed in physical education. It had been common practice for the test developer to describe the validity and reliability of each subset in the battery as well as the overall validity of the battery. Typically, test battery reliability had not been mentioned, perhaps because the methodology for estimating that reliability coefficient had not been readily available.

In order to estimate test battery reliability Safrit and Wood[41] administered twice the Health Related Physical Fitness Test as a battery which included four subsets, which measured components of physical fitness affecting a positive health state. The validity and reliability of each subset had been demonstrated to be adequate, as had the overall validity of the battery. To estimate the multivariate reliability of the Health Related Physical Fitness Test battery using a data set obtained from middle-school children, a canonical correlation analysis was used. Estimates were calculated for boys and girls 11-14 years of age. The Health Related Physical Fitness Test was highly reliable for all age groups and both sexes. Univariate reliabilities were also calculated and, with the exception of the distance run test, those estimates were high. In conclusion, the multivariate reliability of the Health Related Physical Fitness Tests as a battery was satisfactory under all conditions for the middle school children.

Looney and Heimerdinger[42] conducted three related studies with a purpose to develop a social dance instrument that had logical validity and generalizable performance ratings. Three social dance experts critiqued the instrument and concluded the items described the characteristics of good social dance performance. Twelve couples from a social dance class were videotaped for 5 minutes while performing the fox trot. Their performances were evaluated by a different set of coders in each of the three

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41 Margaret J. Safrit and Terry M. Wood,"The Test Battery Reliability of the Health Related Physical Fitness Test," Research Quarterly for Exercise ond Sports, 58:2 (June 1987), 160-167.
42 Marilyn A. Looney and Barbara M. Heimerdinger,"Validity and Generelizability of Social Dance Performance Ratings," Research Quarterly for_Exercise_and Sports, 62:4 (December 1991), 399-405.

generalizability studies conducted (Subjects X Coders X Days ANOVA design). Dance performances were held constant across coding occasions so the day facet represented degree of consistency in coding, not stability of subjects' performances. Decision studies were also conducted for various measurement conditions. Results of the Generalizability studies indicated that coders with several years of experience teaching and evaluating dance had less systematic coder bias and less systematic coder bias for a subset of dancers than coders who had little or no experience evaluating movement of any form. The performance ratings given by novice coders could be generalized for any randomly selected coder evaluating on any given day. It was concluded that the social dance test was valid and coders could be trained to obtain generalizable performance ratings.

The purpose of the study of Porter, Vandervoort and Kramer[43] was to determine the reliability of testing concentric (CONC) and eccentric (ECC) dorsiflexion and plantar flexion in a standing position. It was hypothesised that that type of testing would result in a sufficiently reliable method of comparing age groups and for an evaluation of a strength training intervention. Pearson product moment correlation coefficients, intraclass correlation coefficients method, error statistics and paired t-tests were used to determine the reliability of the testing procedure. While reliability testing of a new testing method was imperative, it was also found worthwhile to compare values to others reported in the literatures and testing procedures traditionally used. They had concluded that their method of testing isokinetic dorsiflexion and plantar flexion in a standing position had "acceptable reliability and produced results consistent with those acquired with the supine protocol.

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43 Michelle M. Porter, Anthony A. Vandervoort, and John F. Kramer, "A method of measuring standing isokinetic plantar and dorsiflexion peak torques," Medicine and Science in Sports and Exercise, 28:4 (April 1996), 516-522.

Bates[44] in his paper with a purpose to identify and discuss an alternative experimental methodology, Single Subject Design, emphasized that variability was an inherent component of movement both within and among individuals and we simply could not replicate a movement pattern exactly due to the various physical and environmental constraints within and surrounding us. After giving various types of statistical techniques used for analysing intra and inter subject variations, they had cautioned the researchers using generalizability of methodologies. Researchers using traditional group methodology were seeking 'generalizability and feel that the goal was within reach as soon as all the variables could be accounted for. The system feeds back on itself through continual experiences and changing perceptions. This was not to suggest that some system components and processes were not generalizable within limited definable constraints, but as a total, self-actuated system, 'humans' were seldom predictable. The human body was a dynamic system and each of us had potential uniqueness and it was in the end that fact in conjunction with the information presented that not only justified but in some cases dictated the use of Single-Subject evaluations.

Wigglesworth[45] et.al., examined the reliability and validity of a new blood lactate analyzer. Thirty one well-trained: cyclists (16 male, 15 female) ranging in age from 16-43 years participated as subjects. All subjects performed a maximal graded cycle ergometer test followed by a Wingate Anaerobic Test. Intraclass reliability coefficients were used to examine the reliability of the instrument. A repeated measures and Pearson 'r' demonstrated concurrent validity.

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44 Barry T. Bates,"Single-subject methodology:and alternative approach," Medicine and Science in Sports and Exercise, 28:5 (May 1996), 631-638.

45J.K. Wigglesworth, VJ. LaMere, N.D. Rowland and L. Milles "Examination of the Reliability and Validity of a new Blood Lactate Analyzer," Medicine and Scince in Sports and Exercise (Supplement), 28:5, (May 996), S-11.

Baltimore Theraputic Equipment's Dynatrac was an isotonic dynamometer that allowed the user to perform isolated joint exercises at controlled constant loads. It was an active device from the standpoint that the lever arm was driven by a motor and tension in one direction was always present. Sensors in the Dynatrac recorded the lever arm position, lever arm velocity, and the torque present on the lever arm throughout the exercise. Richards[46] et.al., conducted a study with a purpose to assess the validity of the static and dynamic response characteristics and measure the within-tester reliability and between-tester objectivity of the Dynatrac. External force and position sensors were utilized to validate the Dynatrac. For the reliability and the objectivity tests, 20 subjects each performed five power tests and one work test for each of four testers. Validity test results showed close agreement between the Dynatrac's position and velocity measures and those obtained from the external sensors. Intraclass coefficients were calculated to establish within-tester reliability and between -tester reliabilities. Two equations namely Intraclass (3,1) and Intraclass (2,1) were used in this study, where the first one was used to calculate within-tester reliability that treated trials as fixed effect and the second one to calculate between-tester reliability that freated testers as a random effect so that the results of the tests could be extrapolated to other testers. Also the within-tester and the between-tester objectivities were found out using the same intraclass correlation methods. Based on the high intraclass correlation coefficients recorded for almost all the tests, they had concluded that the Baltimore Theraputic Equipment's Dynatrac could be considered both reliable and objective.

Pols[47] et.al., stated that in epidemiological studies, the exposure to risk factor and the occurrence of disease was the issue of interest and that the assessment of risk factor status for individual subject was not always straight forward. They had

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46 James G. Richards, Edward J. Quigley, Patrick W. Castagno, and Robert E. Neeves,"Validity and Reliability of the BTE Dynatrac," Medicine and Science in Sports and Exercise, 28:7 (July 1996), 913-920.

47 Margreet A. Pols, Petra H.M. Peeters, Han C.G. Kemper, and Hubertine J.A. Collette,"Repeatability and relative validity of two physical activity questionnaires in elderly women," Medicine and Science in Sports and Exercise, 28:8, (August 1996), 1020-1025.

differentiated the variables as individual dietary habits and physical activity, So, in a population of 33 women, aged 51-71 years, two physical activity questionnaires were tested for repeatability. For assessment of relative validity, the questionnaires were compared with a physical activity diary as the main reference method. Means and standard deviations were calculated for all measurements. For assessment of reproducibility and relative validity, Pearson's correlation coefficients were calculated to evaluate the strength of linear relationships between variables. The coefficients of repeatability and relative validity found in this study were within the range of values reported by other authors. They also concluded that the relatively low correlations found in all studies illustrated that the difficulty in measuring physical activity by questionnaire and another problem of such studies was the absence of a real and applicable gold standard. The results of the study indicated that those questionnaires could be used to rank older women into categories of relatively high and low physical activity.

2.1. DISCUSSION ON LITERATURE

Through the literatures available, it had been confirmed that 'Agility' could be tested as a separate fitness component, that it could best be developed in programmes designed specifically for that purpose and that a unique factor of agility did exist.

Regarding the methods used to establish the reliability of tests, before 1950's, authors had used Pearson's product moment correlation method between trials. In, 1960's, the method of employing Analysis of Variance procedures to establish reliability had been used by many renowned authors. Intra class correlation methods using one way ANOVA and two way ANOVA and determining Rxx coefficients to establish reliability had come into being in 1980's predominantly whenever there were more than two trials. The authors who used the intra class correlation methods had emphasised that the Pearson's product moment correlation method could not identify the systematic increase or decrease in the trials which could lower the reliability of the test. Also the constraint of using more than two trials was removed in the case of intra class correlation methods. Also it detected the systematic variations in the trial scores. Some authors

had used the trial best scores and some had used the trial average scores as the representative scores.

In all the cases, Test-retest method only had been selected as the best to establish reliability. Buta slight controversy was observed in using the best of several performance in preference to using the individual averages. But the problem was found to be solved by giving the solution that the decision to choose an individual's best score or average should be based on the degree of variability between all scores relative to the average amount of variability within subjects. It has been suggested that, the greater the variability between scores, relative to the variability within individual scores, favoured selecting the best score rather than the average score. The opposite selection might be made when the variability between all scores approached the-average variability within individual scores. In some cases, Spearman rho rank difference method of correlation was used to measure reliability.

The validation procedures were almost the same in all the studies. The Pearson's Product Moment Correlations had been used to demonstrate concurrent validity. To prove objectivity, inter-tester reliabilities using intra class correlations had been used. Some authors had used Pearson's r and a repeated measures design. Construct validity was established in certain cases.

In the case of construction of norms, Roger's method was used to construct strength index norms.

CHAPTER - III

Methods and Materials

CHAPTER III

METHODS AND MATERIALS

In this Chapter, the population under study, the explanation of the newly constructed test, the criterion tests against which the new test was validated, the collection of data and the statistical techniques used have been presented.

3.1 SELECTION OF SUBJECTS

Four thousand eight hundred and forty eight male students of age between eleven and fifteen years were selected from 42 Kendriya Vidyalayas in Chennai Region for the study. The subjects were selected by choosing odd or even number from the attendance register, by systematic random sampling method. The subjects for this study, belonged to the upper middle class families with same type of socioeconomic background, were normally healthy and were willing to undertake the test. The Vidyalayas covering all the categories namely, Defence sectors, Civil Sectors, sponsored by Institutes of Higher learning and the Project schools located in rural, suburban and urban areas were included for the purpose of data collection. The subjects were studying from sixth-to tenth classes.

The number of subjects who participated in the study in the order of their age were 1122 in 11 years group, 1026 in 12 years group, 981 in 13 years group, 868 in 14 years group and 851 in 15 years group.

3.2. SELECTION OF CRITERIONS

All the available tests to measure agility are as old as 1940 to 1973. The norms were compiled as long ago as the tests were constructed. They need revalidation due to the application of modern scientific methods and approaches in the field of physical education of late. Also such norms were compiled out of subjects from western countries. Moreover, the existing tests do not involve all qualities of agility. To overcome all these

setbacks and to avoid revalidation of old tests, construction of new agility test involving all required qualities of agility was felt necessary. Hence the purpose of the study was to construct a new agility test and to compile Norms for the new test. The Validity, Reliability, and Objectivity of the newly constructed test were also established at the required level of confidence.

3.3. INSTRUMENT RELIABILITY

Indian made stop watches calibrated to one tenth of a second were used. The test-retest method to obtain the stability reliability coefficient, which was an estimate of a measuring instrument's reliability, was established by taking timing on the same watch by different testers and same tester on different watches and correlating those scores. The test-retest reliability was then calculated using the above scores which was found to be very high and the inability of the instrument to measure consistently was eliminated.

3.4. TESTERS' COMPETENCY

To determine the degree of reliability of testers in this test, a set of 10 subjects selected at random were tested by the testers who helped the research scholar in data collection separately. The scores obtained by the testers on different occasions were treated as trials, and the one way intra class correlation' was used to find the R. It was found to be 0.99, highly significant and the doubt of inconsistent scoring by testers was removed. The table is given below.

TABLE - I

ONE WAY INTRA CLASS COEFFICIENT FOR TESTERS' COMPETENCY

Variance Sources	Sum^2	df	MS	R_{xx}
Between Testers	97.24	9	10.8044	0.99
Within Testers	2.61	27	0.0967	

1 Ted A. Baumgartner and Andrew S. Jackson, Measurement for Evaluation in Physical Education and Exercise Science, (Dubuque, Iowa: Wm.C. Brown Publishers, 1987), P. 95.

3.5. ORIENTATION OF SUBJECTS

The subjects were clearly explained of the overlying importance of the experiment and were insisted upon their full cooperation. They were also advised to do their best in the trials. The research scholar demonstrated the tests himself and some of the students who performed well were also used as models for demonstrations. The subjects took part in the testing programme with interest and enthusiasm.

3.6. SUBJECT RELIABILITY

As described above, three testers tested a group of 100 subjects on this test on different days as a pilot study. The scores of the three testers were analyzed by using intraclass correlation and the correlation coefficient obtained was .92, thus discarding the inconsistent performance by the subjects. :

3.7. VALIDITY OF THE TEST

The investigator used the method of concurrent validity to establish the validity of the new test. For this purpose, he selected two tests namely Boomerang Run (right)[2] and Zig-Zag Run Test (Texas Run Test 1973P as external criterions which were proved to be reliable and valid agility tests.

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2 Donald D. Gates and R.P Sheffield, “Tests of Change of Direction as Measurements of Different Kinds of Motor Ability in Boys of the Seventh, Eighth and Ninth Grades,” Research Quarterly, 11 (October, 1940), 136-174.

3 Ted A. Baumgartner and Andrew S. Jackson, Measurement for Evaluation in Physical Education and Exercise Science, (Dubuque, Iowa: Wm.C. Brown Publishers, 1987), P 204.

3.8 RELIABILITY OF THE TEST

Test-retest method was followed in this study to establish the reliability of the test. The coefficient of stability or reliability was derived from the correlation of scores obtained by 100 subjects on two administrations of the constructed test.

3.9 OBJECTIVITY OF THE TEST

The objectivity of the test was found out by asking two of the testers involved in collection of data to test a set of 100 students on the new test. The correlation coefficient was found out between the scores of the two testers on the new test was found out to be higher enough to establish rater reliability, which was the objectivity.

3.10 THE CONSTRUCTED AGILITY TEST (Fig.1)

The scholar explained the test verbally, then demonstrated the test and allowed some subjects to perform the test as models in order to obtain full cooperation from the subject. The subject received the explanation and the demonstration as a sort of positive motivation. They performed the test with interest, involvement and enjoyment.

3.10.1 EQUIPMENT

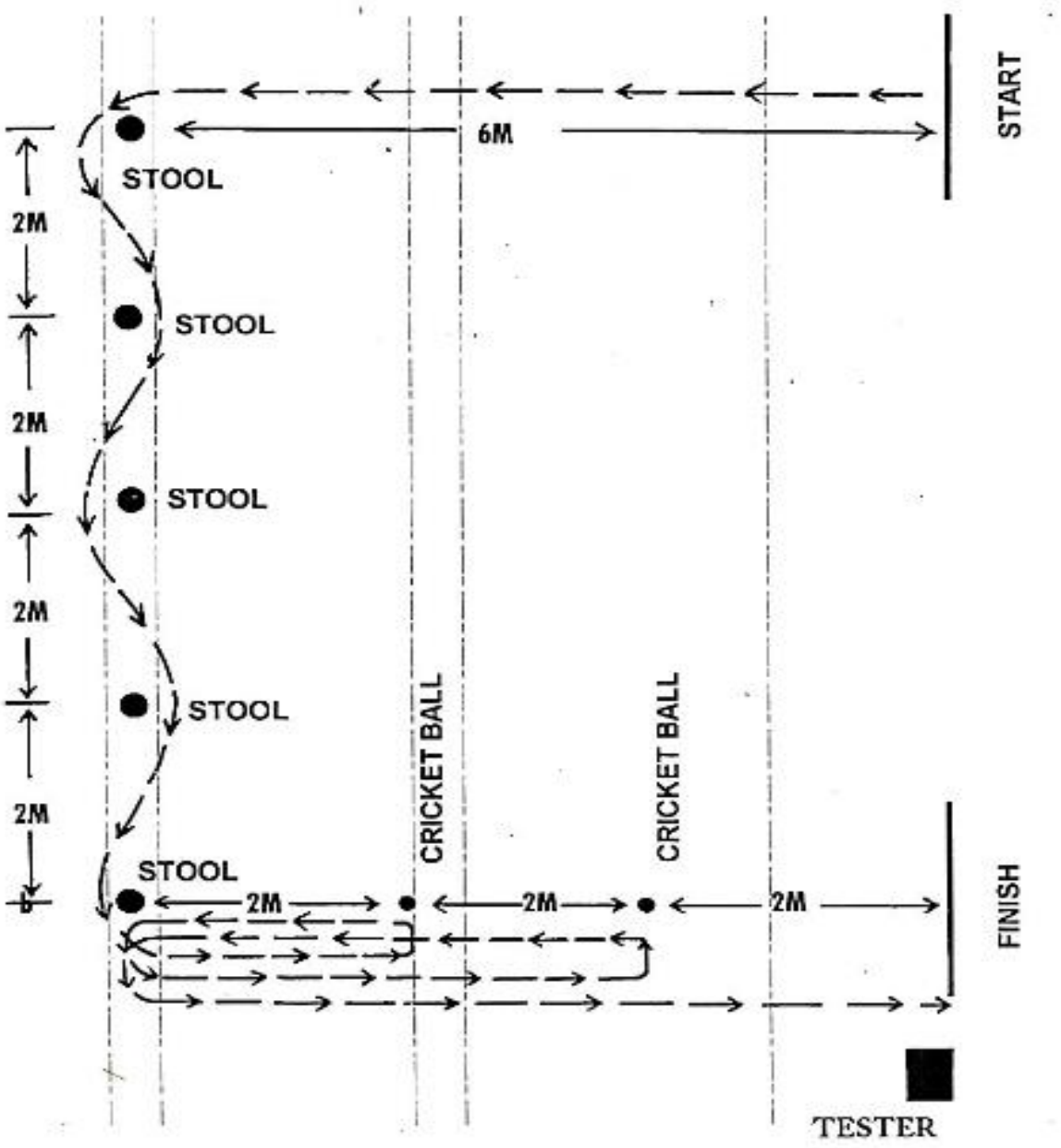
Two cricket balls, five laboratory stools, a small bucket a stop watch and a measuring tape.

3.10.2 DESCRIPTION AND ADMINISTRATION OF THE TEST

Six meters away from the starting line, five laboratory stools were arranged in a line parallel to the starting line, each stool having a distance of two meters between them. Two cricket balls were placed in between the finish line and the last stool having an equal distance of two meters between the last stool to the first ball, first ball to the second ball and second ball to the finish line. On top of the last stool a bucket with a radius of six inches at the top and four inches at the bottom was placed to out the two

FIGURE - 1

FLOOR MARKINGS OF THE NEWLY CONSTRUCTED AGILITY TEST



cricket balls after collection one by one and to have uniformity of performance among every subject. The finish paint and the starting point were on the same line, having a distance of eight meters in between them.

The investigator was sitting on the finish the facing the starting line. The subject was sitting in ‘on his mark’ position facing the opposite direction of his running, keeping only his legs on the line. The investigator gave the starting by saying ‘ready’ and a sharp ‘go’ and simultaneously started the watch.

The subject got up, turned ran up to the first stool straight, made a left turn around the first stool, a right turn around the second stool and so on. At the fifth stool, he made a left turn around it, picked up the first cricket ball, ran back to the fifth stool, put the ball inside the bucket on the stool, turned back, picked up the second ball, put the ball inside the bucket and dashed back to the finish.

The investigator stopped the watch, as soon as the torso of the subject crossed the finished line.

3.10.3 The Score

The lime taken to complete one trial from starting to finish was recorded as the score of the subject. The time was recorded in completed seconds and tenth of a second. Three trails were given for all the subjects on the same day after sufficient rest, that is, a class of 20 days, say took the first trail, then the second and then the third in the same order of rotation. This method gave them proper rest in between the trails. The average of the trails were considered for the purpose of correlations for validation and all the three trails were taken for the purpose of affirming reliability and objectivity.

3.11 STATISTICAL PROCEDURE

Pearson's Product Moment Correlation (Zero Order)[5] was used to correlate the criterion test scores and the Constructed Test Scores to examine the validity of test and to verify the instruments reliability and to examine the objectivity.

The test-retest scores of the subjects were subjected to intraclass R from Two – Way ANOVA[6] to investigate the Reliability of the test. To explore the Subject Reliability intraclass R from One-Way ANOVA was used.

An intra class One Way ANOVA[7] was used to verify the Testers Reliability.

Percentile Norms and Hull Scale Norms[8] were separately prepared for each age group using the average of the scores.

The entire statistical computations were done using a custom made software package developed in Clipper DBMS Complier under DOS environment.

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5. David H Clarks and H.Harrison Clarke, Research Processes in Physical Education,(Englewood Cliffs, New Jersey: Prenlice Hall Inc., 1984), pp. 179-187

6. Ted A. Baumgartner and Andrew S. Jackson, Op. cil P. 101
7. Ibid., P. 95
8 David H, Clarke and H.Harrison Clarke, Op.Cil P.227.

CHAPTER - IV

Analysis of Data and Discussion

CHAPTER – IV

ANALYSIS OF DATA AND DISCUSSION

In this chapter, the details of the findings of the study, discussion on hypotheses and compilation of norms after extensive statistical analysis of the data collected from the population under study are presented. The purpose of the study was to construct on Agility test for the boys of age between 11 to 15 years of Kendriya Vidyalayas of the Chennai Region. The test was validated against two criterion tests namely “Boomerang Run (Right) and Zig-Zag Run Test (Texas Run 1973), which were validated and accepted tests.

The statistical analysis of data, collected from the boys of age ranging from 11 years to 15 years for establishing the reliability and validity and the construction of Percentile and Hull Scale norms, are also presented.

4.1 LEVEL OF SIGNIFICANCE

Confidence interval, level of confidence or signification indicate the chances that the population mean falls outside the limits expressed. Considering the nature of the present study and the size of the population, the level of significance was fixed at 0.05 level.

4.2 RELIABILITY OF THE TEST:

Three trials were taken on each test on consecutive days and those scores were put into the two-way intra class correlation analysis for the total population to establish the reliability. In the two-way analysis of intraclass correlation coefficients, the F-ratio obtained was found to be highly significant indicating a difference among the trial means.

As advocated by Baumgartner and Jackson[1], the last alternative given, R was found out in which the trial-to-trial variance were not considered as measurement error.

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1 Ted A. Baumgartner and Andrew S. Jackson, Measurement for Evaluation in Physical Education and Exercise Science, (Dubuque, Iowa: Wm.C. Brown Publishers, 1987), P.111.

This technique was often used when it was known that subjects would improve from trial.

Table – II

RELIABILITY COEFFICIENT OF NEW AGILITY TEST FOR TOTAL POPULATION
SUMMARY OF AALYSIS OF VARIANCE FOR MEAN ERROR SCORES

Source of Variance	SS	df	MS	R
Among Subjects	46001.358	4847	9.491	-
Among Trials	192.066	2	96.033	-
Interaction	346.081	9694	0.036	0.9962
Total	46539.505	14543		

$$f(0.5) = 3.0000\ (2.14543\ df\ f.01 = 4.6300\ (2.14543\ df)\ Significant\ at\ 0.1\ level)$$

Since the obtained critical value of F-ratio was significant and might be due to the improvement because of the repetition of the test for there times, the R was estimated. The obtained R was found to be 0.9962 which was highly significant establishing the test-retest reliability.

4.3 VALIDITY OF THE TEST

To establish validity, two criterion tests namely “Boomerang Run (Right)” and “Zig-Zag Run (Texas Run 1973)” were used. Three trials were taken on the consecutive days. Then the average of the three trials were calculated.

According to Baumgartner and Jacson[2], the best score from several trials might not be typical in that it was unlikely to be achieved again for a long time and might be inflated by measurement error. The most reliable criterion Score and the best indicator f the true ability then, was the mean score. In theory, the sum of errors of measurement

2 Ibid., P. 125.

was 0 when all of an individual's trial scores were added together. Because in most situations one wanted an indications of status or typical performance, the mean score was the preferred criterion score for a multiple-trial test. And when scores were not stable, as may be true with special populations, the mean of the scores collected on several days might well be the only indicator of true ability. Considering all the arguments and the results of the literature survey, the scholar had used the mean scores for the calculation of the Validity Coefficient.

The average scores were used to find out the coefficient of correlation of validity of the test and the obtained results of the correlation were given in Table III.

TABLE – III

VALIDITY COEFFICIENTS OF NEW AGILITY TEST AND CRITERION TESTS

Tests	Mean	σ	r_{12}	r
Boomerang Run Test	15.181	1.912	0.9325	0.081
New Agility Test	13.279	1.780		
Zigzag Run Test	13.362	1.777	0.9555	0.081

While glancing the coefficients, they prove to be very high to confirm that the test was valid. Also the required 'r' value[3] to establish the significance of the obtained r_{12}'S were so low that the coefficients were attributed only to the relationship between the tests and not be any sampling error.

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3 Ted A. Baumgartner and Andrew S. Jackson, Ibid., P.96

4.4. OBJECTIVITY OF THE TEST

The objectivity of the test was found out by asking two of the testers involved in the collection of data to test a 100 students on the new test. The correlation coefficient obtained between the scores of the two testers on the new agility tests was found to be 0.95 pointing towards a high rater objectivity.

4.5. DISCUSSION ON FINDING

In the test-retest using the two way intra class correlation involving the three trilas of the new test, as the critical value of F-ratio obtained was found significant, a further method to ascertain the different between the trials and to eliminate the possibility of the measurement error, R was calculated and it was found to be 0.9962, significant at .05 level of confidence. Thus the reliability of the test was established.

The average of the criterion test scores and the new agility test were alysed using the Persons Product Moment Correlation and the 'r' were found to be 0.9325 and 0.9555. The significance of the obtained r's were found to be 0.081, very low, to conclude that the coefficients were attributed to the relationship between the test and not to any sampling error. Thus, the validity of the test was established at.05 level of confidence.

Hundred students were tested by two testers and the scores were put into pearsons Zero Order Correlation. The obtained r was found to be 0.95 indicating the Objectivity of the test at .05 level of significance.

Whitney and Smith[4] pointed out that selecting the best performance did not rest on sound foundation and advocated to use only the average of the available trials. Further, Berger and Sweeney[5] were very emphatic in stating that if the variability between all scores approached the average variability within individual scored, the average of the trials had to be taken for analysis.

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4 J.D. Whitney and L.E. smith, "Larger Correlations obtained by using Average rather than 'Best' Strength Scores", Research Quarterly, 34:2, (May 1963), 248-249.

5 Richard A, Berger and Arthur B. Sweney, "Variance and Correlation Coefficients", Research Quarterly, 36:3, (October 1965), 368-370.

In the present study, the variability between the scores relative to the variability within individual scores was not greater. But the variability between all scores approached the average variability within individual scores. Hence, the investigator used the average of the trials as the performance of the subjects for all purposes of analysis in this study.

4.6. DISCUSSION ON HYPOTHESES

It was hypothesized that

(1) The newly constructed agility test might not be reliable,
(1) The newly constructed agility test might not be valid and,
(1) The newly constructed agility test might not be objective

The findings of the study showed that through the critical value of F found out using two way intra class correlations method, R was determined. It was found out to be 0.9962, significant at .05 level of confidence. Since the reliable estimates were found to be highly significant, the null hypothesis that the newly constructed test might not be reliable was rejected and the test was accepted as a reliable test of Agility.

Using Pearson Product Moment Correlation Method, the average of the scores of the Newly constructed test and the Boomerang Run(Right) were correlation and the correlation coefficient was found to b 0.9325. In the same way the 'r' was found to be between the Newly constructed agility test and the Zig-Zag Run Test 0.9555. Both these values were subjected to the test of significance and found to be significant at 05 level of confidence. Hence the null hypothesis that the newly constructed test might not be valid was rejected and the newly constructed test was accepted as a valid test to measure agility.

By correlating 100 scores collected by two different testers were put into Zero Order Correlation and the coefficient was found to be 0.95, significant at 05 level. Hence the hypothesis that the test might no be Objective was rejected and the newly constructed test was accepted as an objective test to measure agility.

4.7 COMPILATION OF NORMS

Taking into considerations the view of McCrow and McClenny[6] not to accept the scores of a single student as a true measure of his illeness and the view of Rerger and Sweney[7] that the decision to choose an individual's best score or average score should be based on the degree of variability between all scores relative to the average amount of variability within subjects, the average scores for all the age groups of the New test had been put into Percentile Norms and Hull Scale Norms and presented below. Percentile Norms are easily understood and indicate how a student's performance ranks relative to his or her peers. Also they are easier to explain to students and parents. This percentile scores not be odded together to obtain a composite score based on several measures. But, the Hull scale Norms, which extends to $\pm$ 3.5σ may be considered a compromise between the T-Scale and the 6-zigma scale, and the occurrence of a extreme score failing outside the scale is more remote than for the 6-zigma scale. In order to satisfy the needs of the people who use the test, both the Percentile Norms and Hull Scale Norms were prepared for the New Agility Test for all the age groups separately.

The number of subjects those who participated in each age group were as followed:-

11 years	1122
12 years	1022
13 years	981
14 years	868
15 years	851
Total	**4848**

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6 Lynn W. MeGraw and Byren N. MccLENNEY, "Reliability of Fitness Strength Tests". Research Quarterly, 36.3 (October 1965), 289-295.

7 Richard A. Berger and Arihur B. Sweney, Op.Cil, 368-370.

TABLE IV

PERCENTILE NORMS FOR 11 YEAR OLD BOYS FOR NEW AGILITY TEST

Percentile	0	1	2	3	4	5	6	7	8	9
00	17.300	17.210	17.120	17.020	16.930	16.840	16.750	16.660	16.590	16.530
10	16.460	16.390	16.330	16.260	16.190	16.130	16.060	16.000	15.940	15.870
20	15.810	15.750	15.690	15.630	15.560	15.500	15.440	15.380	15.310	15.250
30	15.180	15.120	15.050	14.990	14.920	14.860	14.790	14.30	14.660	14.590
40	14.530	14.460	14.400	14.330	14.260	14.200	14.140	14.080	14.030	13.970
50	13.920	13.870	13.810	13.760	13.710	13.650	13.600	13.550	13.490	13.430
60	13.380	13.320	13.260	13.200	13.150	13.090	13.030	12.970	12.920	12.860
70	12.800	12.740	12.680	12.620	12.570	12.510	12.450	12.390	12.330	12.270
80	12.210	12.150	12.090	12.030	11.970	11.910	11.850	11.790	11.730	11.680
90	11.610	11.550	11.490	11.430	11.370	11.310	11.250	11.180	11.120	11.060
100	11.000									

SIX POINT PERFORMNACE DISTRIBUTION SCALE

25 and below	(Failing)	=	297
26 to 35	(Below Average)	=	109
36 to 50	(Average)	=	174
51 to 65	(Above Average)	=	152
66 to 75	(Good)	=	125
75 and above	(Outstanding)	=	265

TABLE V

HULL SCLAE NORMS FOR 11 YEAR OLD BOYS FOR NEW AGILITY TEST

Percentile	0	1	2	3	4	5	6	7	8	9
00	20.114	19.991	19.869	19.747	19.625	19.503	19.380	19.258	19.136	19.014
10	18.891	18.769	18.647	18.525	18.402	18.280	18.158	18.036	17.913	17.791
20	17.699	17.547	17.424	17.302	17.180	17.058	16.936	16.813	16.691	16.569
30	16.447	16.324	16.202	16.080	15.958	15.835	15.713	15.591	15.469	15.346
40	15.224	15.102	14.980	14.857	14.735	14.613	14.491	14.369	14.246	14.124
50	14.002	13.880	13.757	13.635	13.513	13.391	13.268	13.146	13.024	12.902
60	12.779	12.657	12.535	12.413	12.290	12.168	12.046	11.927	11.802	11.679
70	11.557	11.435	11.313	11.190	11.08	10.946	10.824	10.701	10.579	10.457
80	10.335	10.212	10.090	9.968	9.846	9.723	9.601	9.479	9.357	9.235
90	9.112	8.990	8.868	8.746	8.632	8.501	8.379	8.257	8.134	8.012
100	7.890									

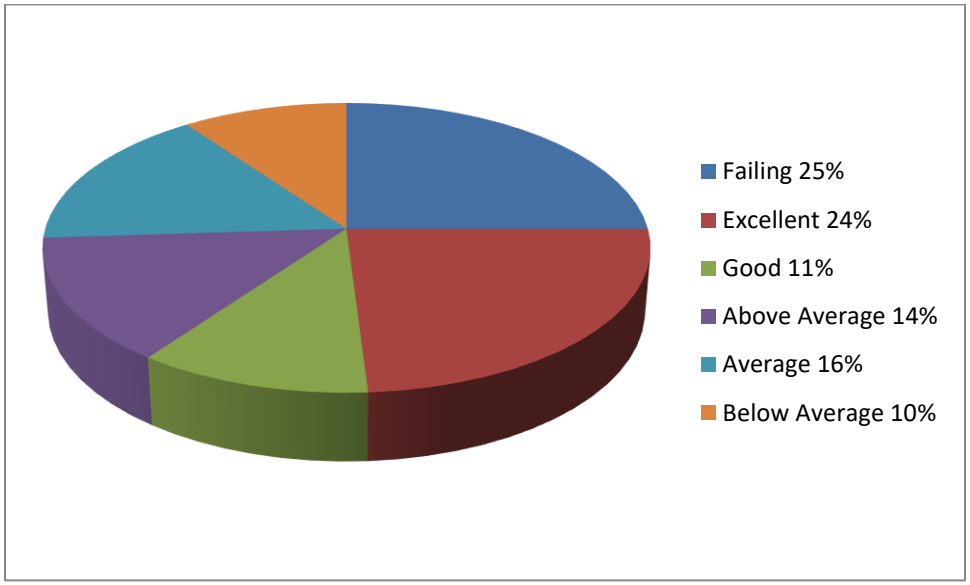
SIX POINT PERFORMNACE DISTRIBUTION SCALE

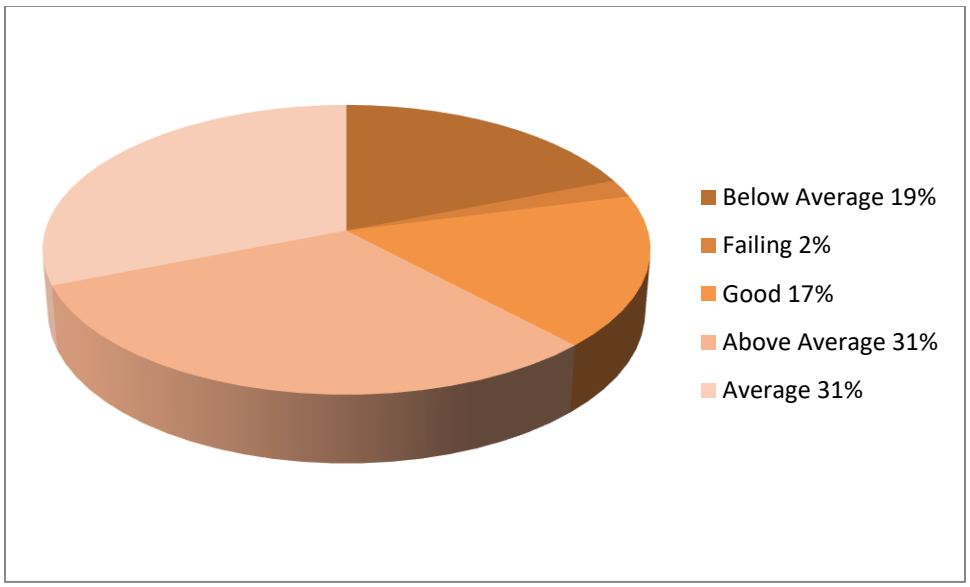
25 and below	(Failing)	=	27
26 to 35	(Below Average)	=	212
36 to 50	(Average)	=	341
51 to 65	(Above Average)	=	349
66 to 75	(Good)	=	193
75 and above	(Outstanding)	=	0

FIGURE - 2

PIE CHART OF PERFORMANCE DISTRIBUTION IN PERCENTILE AND HULL SCALE NORMS

FOR 11 YEAR OLD BOYS





FINDINGS ON PERFORMANCE DISTRIBUTIONS

The minimum score in the percentile table for 11 year old boys category was 17.3 and the maximum score is 11.00. Out of 1126 subjects under the 11 years category 297 (26%) had failed to score 25 percent with their performance and hence had failed in the quantitative scale. 109 Subjects (10%) had attained between 26 and 35 percent and secured below average grade. Average grade had been occupied by 174 subjects (16%) by scoring 36 to 50 percent in the scale While 265 subjects (24%) had scored above 75 percent, 125 subjects (11%) had scored good and 152 subjects (14%) had scored above average.

Where as in the Hull scale for the 11 years category, only 27 subjects (2%) had failed. An improving trend was found further like 212 subjects (19%) had attained the below average grade. 341 (30%) had achieved grade and 349 (31%) had struggled out with Above average grade. While no one had qualified for the achievement of excellent grade. 193 (17%) had earned a good grade.

TABLE VI

PERCENTILE NORMS FOR 12 YEAR OLD BOYS FOR NEW AGILITY TEST

Percentile	0	1	2	3	4	5	6	7	8	9
00	17.300	17.210	17.110	17.020	16.920	16.820	16.740	16.640	16.570	16.500
10	16.420	16.350	16.270	16.200	16.130	16.050	15.980	15.930	15.570	15.810
20	15.760	15.700	15.640	15.590	14.530	15.470	15.420	15.360	15.290	15.210
30	15.130	15.050	14.970	14.890	14.820	14.740	14.670	14.600	14.540	14.470
40	14.410	14.350	14.280	14.220	14.150	14.090	14.030	13.980	13.920	13.870
50	13.810	13.760	13.710	13.650	13.600	13.550	13.490	13.440	13.380	13.320
60	13.250	13.180	13.120	13.050	12.990	12.920	12.860	12.790	12.760	12.670
70	12.610	12.550	12.490	12.430	12.370	12.310	12.250	12.190	12.130	12.080
80	12.020	11.960	11.910	11.850	11.800	11.740	11.690	11.630	11.580	11.520
90	11.460	11.400	11.330	11.270	11.200	11.30	11.070	11.000	10.930	10.870
100	10.800									

SIX POINT PERFORMNACE DISTRIBUTION SCALE

25 and below	(Failing)	=	258
26 to 35	(Below Average)	=	116
36 to 50	(Average)	=	155
51 to 65	(Above Average)	=	150
66 to 75	(Good)	=	109
75 and above	(Outstanding)	=	238

TABLE VII

HULL SCLAE NORMS FOR 12 YEAR OLD BOYS FOR NEW AGILITY TEST

Percentile	0	1	2	3	4	5	6	7	8	9
00	20.195	20.069	19.943	19.817	19.691	19.565	19.438	19.312	19.186	19.060
10	18.934	18.808	18.682	18.555	18.429	18.303	18.177	18.051	17.925	17.798
20	17.672	17.546	17.420	17.294	17.168	17.042	16.915	16.789	16.663	16.537
30	16.411	16.285	16.159	16.032	15.906	15.780	15.654	15.528	15.402	15.276
40	15.149	15.023	14.877	14.771	14.645	14.519	14.392	14.266	14.140	14.014
50	13.888	13.762	13.636	13.509	13.383	13.257	13.131	13.005	12.879	12.753
60	12.626	12.500	12.374	12.248	12.122	11.996	11.869	11.743	11.617	11.491
70	11.365	11.239	11.113	10.986	10.860	10.734	10.608	10.482	10.482	10.356
80	10.103	9.9777	9.851	9.785	9.599	9.473	9.347	9.220	9.094	8.968
90	8.842	8.716	8.590	8.463	8.337	8.211	8.085	7.959	7.833	7.707
100	7.580									

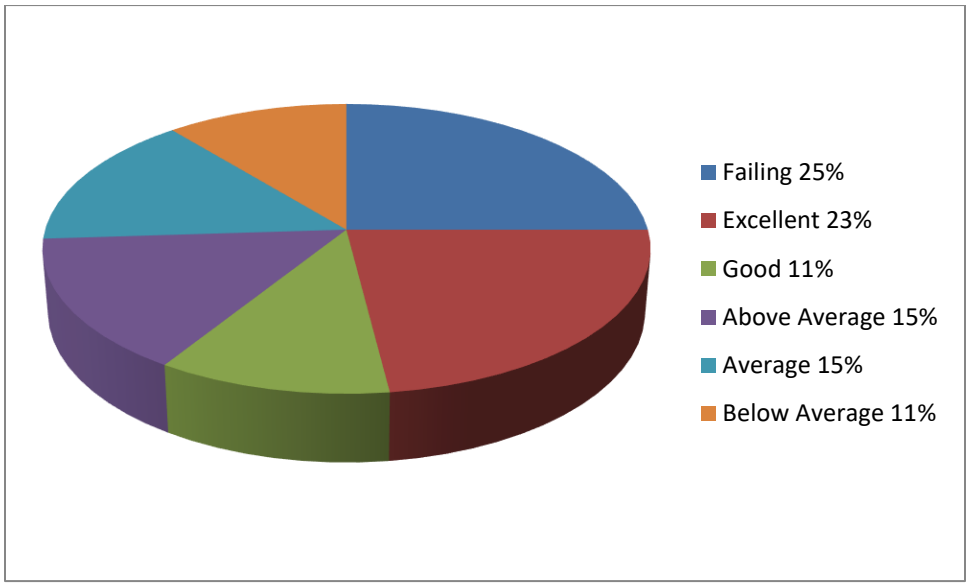
SIX POINT PERFORMNACE DISTRIBUTION SCALE

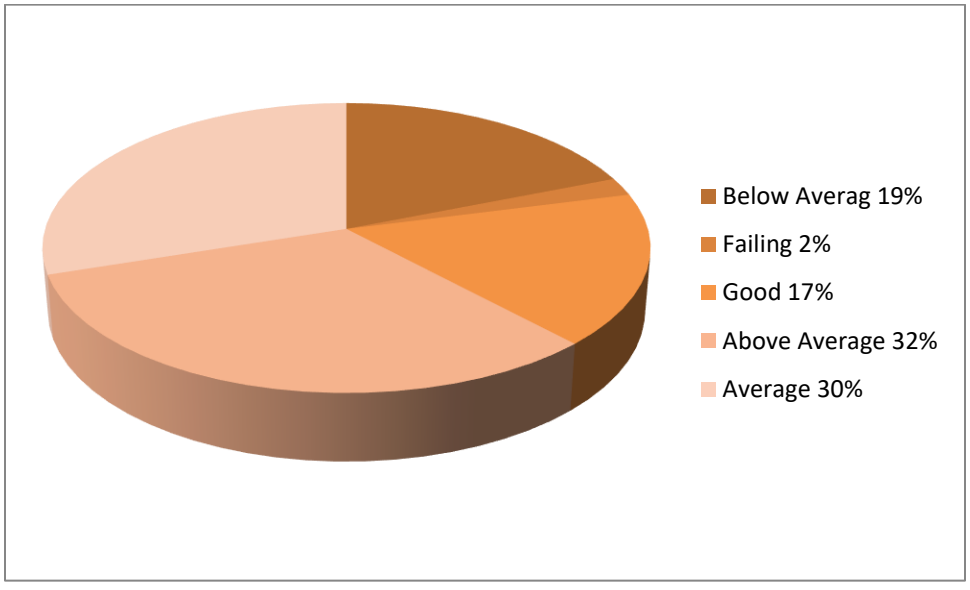
25 and below	(Failing)	=	24
26 to 35	(Below Average)	=	198
36 to 50	(Average)	=	307
51 to 65	(Above Average)	=	327
66 to 75	(Good)	=	170
75 and above	(Outstanding)	=	0

FIGURE - 3

PIE CHART OF PERFORMANCE DISTRIBUTION IN PERCENTILE AND HULL SCALE NORMS

FOR 12 YEAR OLD BOYS





FINDINGS ON PERFORMANCE DISTRIBUTIONS

The minimum score of the percentile table for 12 year old boys was 17.3 and the maximum score was 10.8 which were 17.3 and 11 for 11 year old boys showing on expected improvement with regard to their age and growth.

Out of 1026 subjects in the category of 12 years old boys, 258 (25% had failed, 116 (11%) had achieved below average, 155(15%) had gained average, 150 (15%) had earned above average, 109 (11%) had secured good and 238(23%) has excellent grades. This was found to be fairly good and encouraging in comparison with the 11 year old boys.

In the Hull Scale for the same category, the minimum score was 20.195 and the maximum score was 7.58 None had scored the maximum score and gained excellence. But only 24 (2%) subjects had failed. 19& and 17% of the subjects, 198 and 170, had fallen in the below average and the good category respectively. Almost an equal number of subjects, 307 (30%) and 327(32%) had scored average and above average grades. Almost the same was the case with the 11 year category in the Hull Scale scorings.

TABLE VIII

PERCENTILE NORMS FOR 13 YEAR OLD BOYS

Percentile	0	1	2	3	4	5	6	7	8	9
00	16.800	16.710	163620	16.530	16.440	16.350	16.260	16.170	16.100	16.040
10	15.970	15.900	15.830	15.760	15.700	15.630	15.560	15.500	15.430	15.370
20	15.300	15.240	15.170	15.110	15.050	14.980	14.920	14.850	14.780	14.710
30	14.640	14.580	14.510	14.440	14.370	14.310	14.240	14.170	14.110	14.040
40	13.970	13.910	13.840	13.770	13.710	13.640	13.590	13.540	13.490	13.440
50	13.390	13.340	13.290	13.240	13.190	13.140	13.090	13.040	12.990	12.930
60	12.870	12.820	12.760	12.700	12.640	12.580	12.520	12.470	12.410	12.350
70	12.290	12.230	12.170	12.110	12.00	11.990	11.930	11.870	11.810	11.750
80	11.690	11.630	11.570	11.510	11.450	11.390	11.330	11.270	11.210	11.150
90	11.090	11.030	10.980	10.920	10.860	10.800	10.740	10.680	10.620	10.560
100	10.500									

SIX POINT PERFORMNACE DISTRIBUTION SCALE

25 and below	(Failing)	=	256
26 to 35	(Below Average)	=	91
36 to 50	(Average)	=	156
51 to 65	(Above Average)	=	135
66 to 75	(Good)	=	112
75 and above	(Outstanding)	=	231

TABLE IX

HULL SCLAE NORMS FOR 13 YEARS OLD BOYS

Percentile	0	1	2	3	4	5	6	7	8	9
00	19.606	19.483	19.361	19.238	19.116	18.994	18.871	18.749	18.626	18.504
10	18.328	18.259	18.137	18.014	17.897	17.769	1.647	17.525	17.402	17.280
20	17.157	17.035	16.912	16.790	16.668	16.545	16.423	16.300	16.178	16.056
30	15.933	15.811	15.988	15.866	15.443	15.321	15.1999	15.076	14.945	14.831
40	14.709	14.586	14.464	14.342	14.219	14.097	13.974	13.852	13.730	13.607
50	13.485	13.362	13.240	13.117	12.995	12.873	12.750	12.628	12.505	12.383
60	12.260	12.138	12.019	11.893	11.771	11.648	11.526	11.404	11.281	11.159
70	11.036	10.914	10.791	10.669	10.547	10.424	10.302	10.179	10.057	9.934
80	9.812	9.620	9.567	9.445	9.322	9.200	9.078	8.955	8.833	8.710
90	8.588	8.465	8.343	8.221	8.098	7.976	7.853	7.731	7.608	7.486
100	7.364									

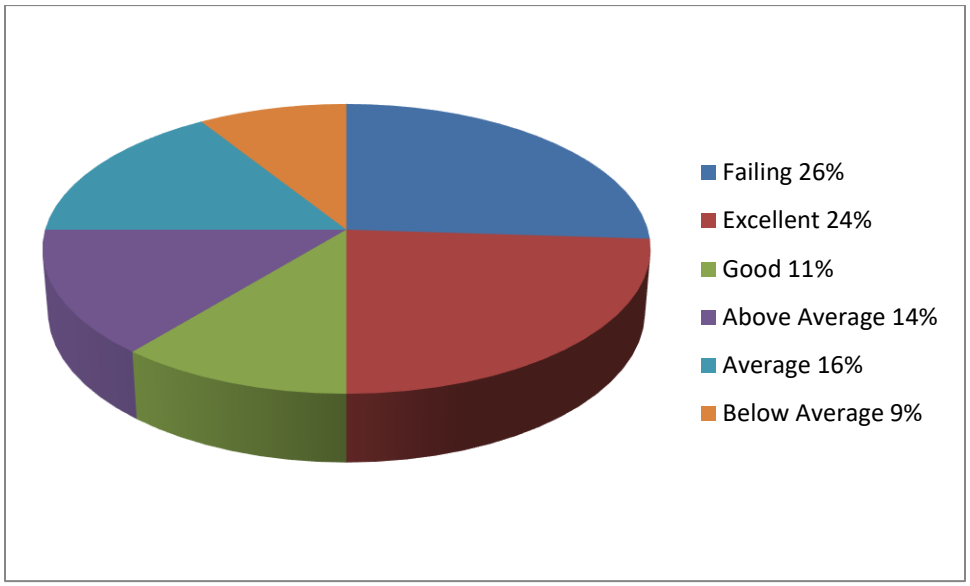
SIX POINT PERFORMNACE DISTRIBUTION SCALE

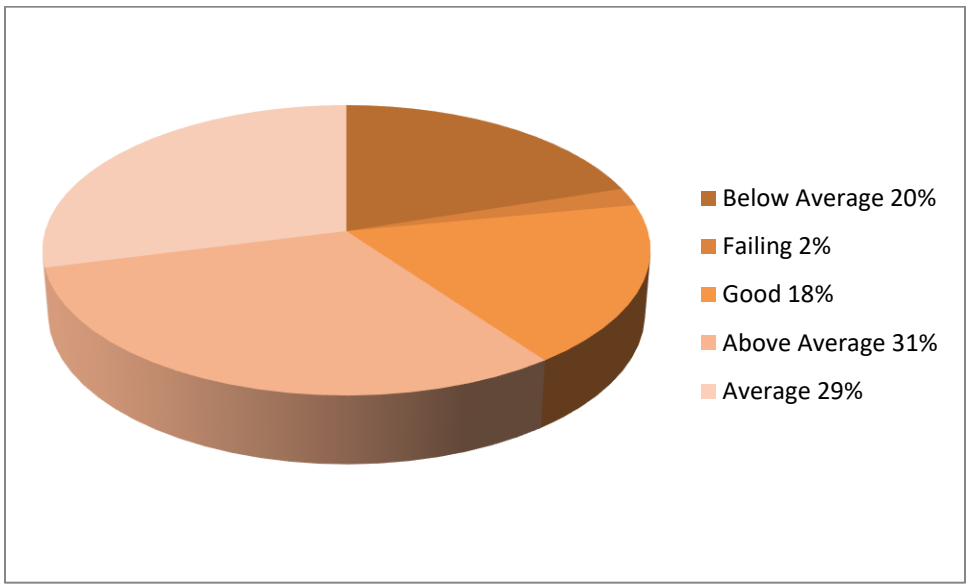
25 and below	(Failing)	=	22
26 to 35	(Below Average)	=	197
36 to 50	(Average)	=	284
51 to 65	(Above Average)	=	306
66 to 75	(Good)	=	172
75 and above	(Outstanding)	=	0

FIGURE - 4

PIE CHART OF PERFORMANCE DISTRIBUTION IN PERCENTILE AND HULL SCALE NORMS

FOR 13 YEAR OLD BOYS





FINDINGS OF PERFORMANCE DISTRIBUTIONS

The minimum score for 13 years old boys category in the percentile table is 16.8 and the maximum score is 10.50 Out of 981 subjects under the 13 years category, 256 (26%) had failed to score 25 percent with their performance and hence had failed in the quantitative scale. 91 subjects (9%) had attained between 26 and 35 percent and secured below average grade. Average grade had been occupied by 156 subjects (16%) by scoring 36 to 50 percent in the scale. While 231 subjects (24%) had scored above 75 percent. 12 subjects (11%) had scored good and 135 subjects (14%) had scored above average.

Where as in the Hull Scale for the 13 year category, only 22 subjects (2%) had failed. An improving trend was found further like 197 subjects (20%) had attained the below average grade, 284(29%) had achieved average grade and 306(31%) had struggled out with Above average grade. While no one had qualified for the achievement of excellent grade, 172 (18%) had earned a good grade.

TABLE X

PERCENTILE NORMS FOR 14 YEAR OLD BOYS

Percentile	0	1	2	3	4	5	6	7	8	9
00	15.200	15.130	15.060	14.980	14.90	14.840	14.770	14.700	14.640	14.590
10	14.530	14.480	14.430	14.370	14.320	14.270	14.210	14.160	14.120	14.070
20	14.020	13.970	13.930	13.880	13.830	13.780	13.730	13.680	13.630	13.570
30	13.520	13.460	13.410	13.350	13.300	13.240	13.190	13.130	13.080	13.030
40	12.980	12.920	12.870	12.820	12.770	12.710	12.670	12.630	12.590	12.50
50	12.500	12.460	12.420	12.380	12.340	12.300	12.260	12.220	12.170	12.120
60	12.070	12.020	11.970	11.920	11.870	11.820	11.760	11.710	11.670	11.620
70	11.580	11.540	11.490	11.450	11.400	11.360	11.310	11.270	11.230	11.180
80	11.130	11.080	11.040	10.990	10.940	10.890	10.850	10.800	10.750	10.700
90	10.660	10.610	10.570	10.520	10.470	10.430	10.380	10.340	10.290	10.250
100	10.200									

SIX POINT PERFORMNACE DISTRIBUTION SCALE

25 and below	(Failing)	=	232
26 to 35	(Below Average)	=	99
36 to 50	(Average)	=	130
51 to 65	(Above Average)	=	123
66 to 75	(Good)	=	83
75 and above	(Outstanding)	=	201

TABLE XI

HULL SCLAE NORMS FOR 14 YEAR OLD BOYS

Percentile	0	1	2	3	4	5	6	7	8	9
00	17.457	17.359	17.261	17.163	17.066	16.968	16.870	16.772	16.674	16.577
10	16.479	16.381	16.283	16.185	16.087	15.990	15.892	15.794	15.696	15.598
20	15.501	15.403	15.305	15.207	15.109	15.011	14.914	14.816	14.718	14.620
30	14.522	14.424	14.327	14.229	14.131	14.033	13.935	13.838	13.740	13.642
40	13.544	13.446	13.348	13.251	13.153	13.055	12.957	12.859	12.761	12.664
50	12.566	12.468	12.370	12.272	12.175	12.077	11.979	11.881	11.783	11.685
60	11.588	11.490	11.392	11.294	11.196	11.098	11.001	10.903	10.805	10.707
70	10.609	10.512	10.414	10.316	10.218	10.120	10.022	9.925	9.827	9.729
80	9.631	9.533	9.436	9.338	9.240	9.142	9.044	8.946	8.849	8.751
90	8.653	8.555	8.457	8.359	8.262	8.164	8.066	7.968	7.870	7.773
100	7.675									

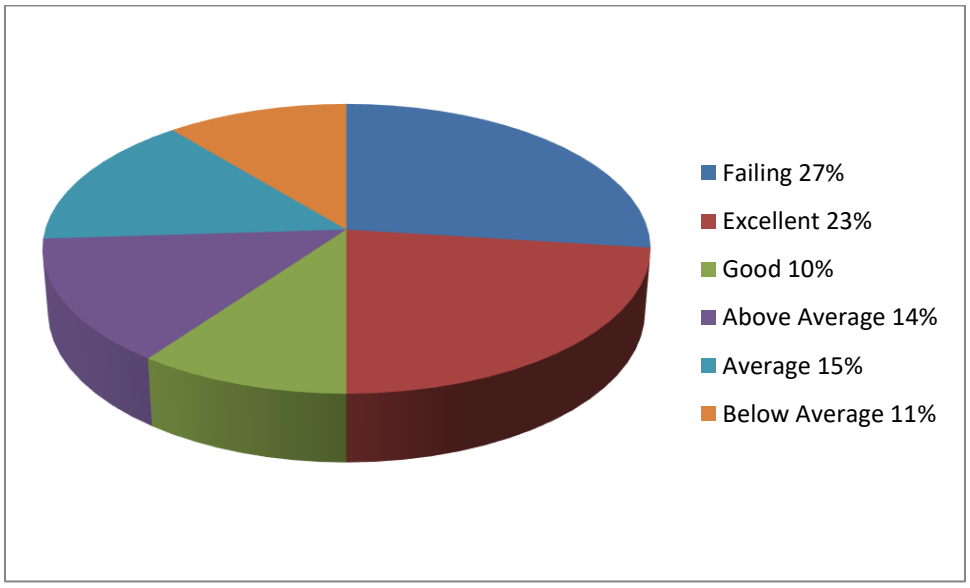
SIX POINT PERFORMNACE DISTRIBUTION SCALE

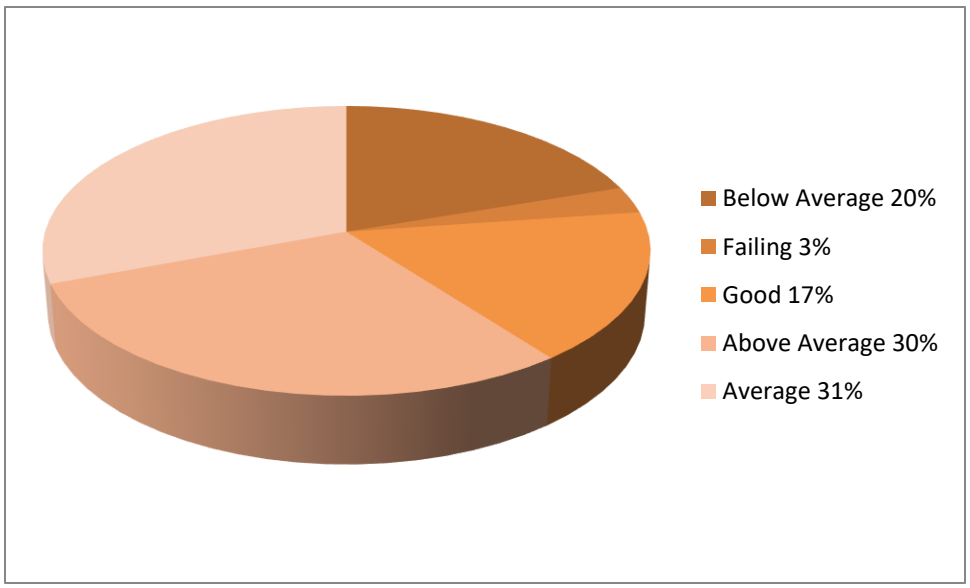
25 and below	(Failing)	=	22
26 to 35	(Below Average)	=	171
36 to 50	(Average)	=	268
51 to 65	(Above Average)	=	259
66 to 75	(Good)	=	148
75 and above	(Outstanding)	=	0

FIGURE - 5

PIE CHART OF PERFORMANCE DISTRIBUTION IN PERCENTILE AND HULL SCALE NORMS

FOR 14 YEAR OLD BOYS





FINDINGS ON PERFORMANCE DISTRIBUTIONS

The minimum score of the percentile table for 14 years old boys was 15.2 and the maximum score was 10.2, which were 16.8 and 10.5 for 13 year old boys showing an expected improvement with regard to their age and growth.

Out of 868 subjects in the category of 14 year old boys, 232 (27%) had failed, 99 (11%) had achieved below average, 130 (15%) had gained average, 123 (14%) had earned above average, 83(10%) had secured good and 201 (23%) had excellent grades. This was found to be fairly good and encouraging in comparison with the 13 year old boys.

In the Hull scale for the same category, the minimum score was 17.457 and the maximum score was 7.675. None had scored the maximum score and gained excellence. But only 22 (3%) subjects had failed. 30% and 17% of the subjects. 171 and 148, had failed in the below average and the good category respectively. Almost an equal number of subjects 268 (31%) and 259 (30%) had scored average and above average grades. Almost the same was the case with the 13 year category in the Hull Scale scorings.

TABLE XII

PERCENTILE NORMS FOR 15 YEAR OLD BOYS

Percentile	0	1	2	3	4	5	6	7	8	9
00	14.200	14.150	14.100	14.050	14.000	13.950	13.900	13.850	13.800	13.750
10	13.700	13.650	13.600	13.560	13.510	13.460	13.410	13.360	13.320	13.290
20	13.250	13.210	13.180	13.14	13.100	13.060	13.030	12.90	12.950	12.900
30	12.850	12.800	12.750	12.690	12.640	12.590	12.540	12.490	12.440	12.390
40	12.340	12.300	12.250	12.200	12.150	12.110	12.070	12.040	12.010	11.980
50	11.950	11.920	11.890	11.860	11.830	11.800	11.770	11.740	11.710	11.680
60	11.640	11.590	11.550	11.500	11.460	11.410	11.370	11.320	11.280	11.240
70	11.200	11.160	11.130	11.090	11.050	11.010	10.980	10.940	10.900	10.870
80	10.830	10.780	10.740	10.700	10.660	10.610	10.570	10.530	10.490	10.440
90	10.400	10.360	10.320	10.280	10.240	10.200	10.160	10.120	10.080	10.040
100	10.000									

SIX POINT PERFORMNACE DISTRIBUTION SCALE

25 and below	(Failing)	=	207
26 to 35	(Below Average)	=	102
36 to 50	(Average)	=	127
51 to 65	(Above Average)	=	129
66 to 75	(Good)	=	97
75 and above	(Outstanding)	=	189

TABLE XIII

HULL SCALE NORMS FOR 15 YEAR OLD BOYS

Percentile	0	1	2	3	4	5	6	7	8	9
00	16.157	16.074	15.997	15.909	15.826	15.743	15.661	15.578	15.495	15.413
10	15.330	15.247	15.165	15.082	14.999	14.917	14.834	14.752	14.669	14.586
20	14.504	14.421	14.338	14.256	14.173	14.090	14.008	13.925	13.842	13.760
30	13.677	13.594	13.512	13.429	13.346	13.264	13.181	13.098	13.016	12.933
40	12.850	12.768	12.685	12.602	12.520	12.437	12.354	12.272	12.189	12.106
50	12.024	11.941	11.858	11.776	11.693	11.611	11.528	11.445	11.363	11.280
60	11.197	11.115	11.032	10.949	10.867	10.784	10.701	103619	10.536	10.453
70	10.371	10.288	10.205	10.123	10.040	9.957	9.875	9.792	9.709	9.627
80	9.544	9.461	9.379	9.296	9.213	9.131	9.048	8.965	8.883	8.800
90	8.717	8.635	8.552	8.470	8.387	8.304	8.222	8.139	8.056	7.974
100	7.891									

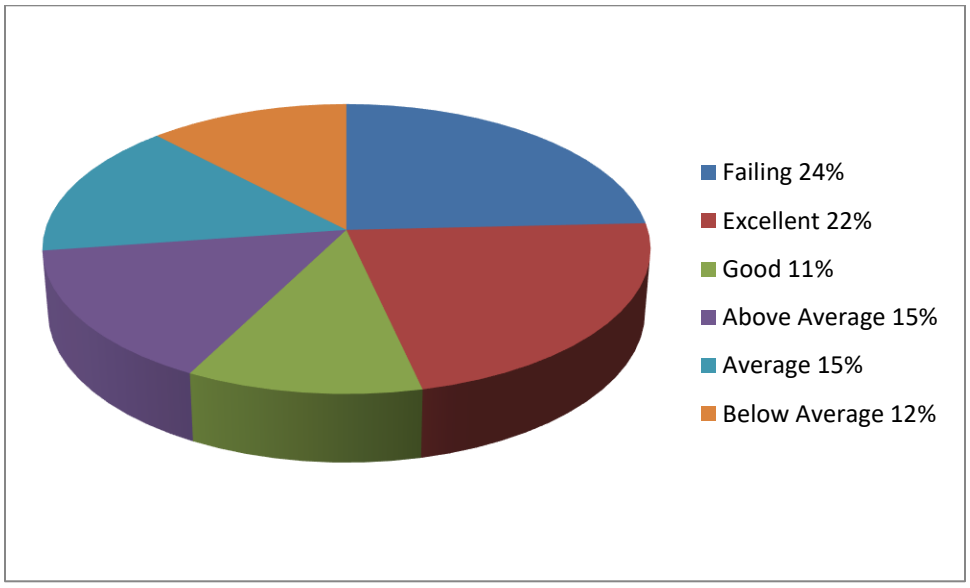
SIX POINT PERFORMNACE DISTRIBUTION SCALE

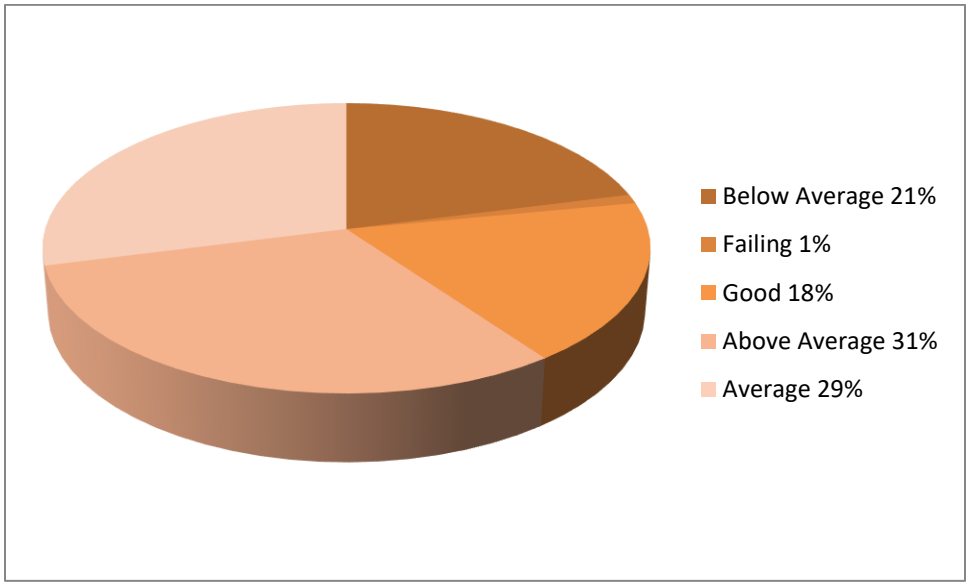
25 and below	(Failing)	=	10
26 to 35	(Below Average)	=	177
36 to 50	(Average)	=	249
51 to 65	(Above Average)	=	266
66 to 75	(Good)	=	149
75 and above	(Outstanding)	=	0

FIGURE - 6

PIE CHART OF PERFORMANCE DISTRIBUTION IN PERCENTILE AND HULL SCALE NORMS

FOR 15 YEAR OLD BOYS





FINDINGS OF PERFORMANCE DISTRIBUTIONS

Where as in the Hull Scale for the 15 year category, only 10 subjects (1%) had failed. An improving trend was found further like 177 subjects (21%) had attained the below average grade, 249 (29%) had achieved average grade and 266 (31%) had struggled out with Above average grade, While no one had qualified for the achievement of excellent grade, 149 (18%) had earned a good grade.

In comparing the scales, namely Percentile and the Hull scale, it was found that the failure and the excellent category were almost same in the percentile scale but in the hull scale it was slightly different that only a minimum had failed and none had achieved the excellent grade.

Out of 851 subjects in the category of 15 year old boys, 207 (24%) had failed, 102 (12%) had achieved below average, 127 (15%) had gained average, 129 (15%) had earned above average, 97 (11%) had secured good and 189 (22%) had excellent grades. This was found to be fairly good and encouraging in comparison with the 14 year old boys.

The minimum score of the percentile table for 15 year old boys was 14.2 and the maximum score was 10.0, which were 15.2 and 10.2 for 14 year old boys showing an expected improvement with regard to their age ad growth.

CHAPTER - V

Summary, Conclusions and Recommendations

CHAPTER – V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

The purpose of the study was to construct an agility test for boys belonging to Kendriya Vidyalayas of Chennai Region. Four thousand eight hundred and forty eight boys were of age between eleven to fifteen years were selected at random using simple systematic sampling method from 42 Vidyalayas.

It was the usual procedure to establish the validity of the newly constructed test by correlating the scores with the scores of the existing valid and reliable tests that measured the same trait. As the scholar wanted to reinforce the finding, he had selected two tests, one, the Boomerang Run (right) constructed in the year 1946, the second, the Zig-Zag Run Test (The Texas Run) constructed in the year 1973. The methods of conducting the tests, equipment used, collection of data, procedure, the ground makings and all other details were given in Chapter IV.

The researcher took three trails on consecutive days on all the tests. The three trails of the test scores were subjected to two-way intra class correlation analysis for the total population. The obtained reliability coefficient was found to be 0.9962 which were highly significant. Hence the test was proved to be reliable.

Concurrent validity, one of the two types of criterion related validity, was used in this study since the newly constructed test was proposed as a substitute for another two tests, namely 'Zig-Zag Run' and 'Boomerang Run (Right)' which were known to be valid.

Pearson's product Moment Correlation Method employing the raw scores was utilized for correlating the scores with the average of the three trials of the new test

scores with the average of the three trails of the Criterion tests for the total population. In all such correlations, the coefficients obtained were found to be 0.9325 and 0.9555 which was significant at 0.05 level confidence. Hence it was confirmed that the validity was established and that the test measured agility.

The objectivity was examined using 100 subjects and two testers and the obtained coefficient was found to be 0.95 which was significant at 0.05 level of confidence. So the test was found to be objective.

Most of the authors of Tests and Measurements had given Percentile Norms for their tests. But the scholar had ventured into the construction of the Percentile Norms and the Hull Scale Norms as well for the convenient use of the testers who use this test. The norms are presented in Chapter-IV.

5.2 CONCLUSIONS

On the basis of the results obtained within the limitations of the present study the following conclusion were drawn:

1. The consistency of the constructed ability test was proved statistically significant and hence concluded that the test was reliable.

2. The new test measured the same trait as that of the criterion tests and hence it was concluded that the test was valid.

3. The objectivity was tested and the coefficients obtained were very high confirming the objectivity of the test. Hence it was concluded that the test was objective.

4. In all, it was concluded that, since the validity, reliability and objectivity of the test were proved beyond any doubt at 0.05 level of confidence statically, the test measured Agility as a separate component.

5. Percentile and Hull scale norms were compiled to each group from 11 to 15 years separately. The agility of the boys of Kendriya Vidyalayas differed slightly with reference to their age.

5.3. RECOMMENDATIONS

The following recommendations were made from the results of the study.

1. The new test was valid and reliable as an instrument for determining the agility of boys. Hence, it could be used to measure the agility of the Kendriya Vidyalaya boys of age between 11 and 15 years.

2. Since the norms now available with us for testing agility were constructed from the scores collected from the subjects of western countries only, most of our Indian subjects were not able to score within the scale. But the present new agility test involved only Indian subjects of all regions and the norms published would be appropriate and suitable for Indian conditions.

3. The norms might be used for the purpose of measuring the status of agility for classification of the students, to diagnose the needs and weaknesses of the children, to evaluate instruction, to evaluate a programme, to grade the children, to motivate the students, to motivate the subjects, to use it an instructional device, to predict the ability and for research purposes for Kendriya Vidyalaya boys of 11 to 15 years of age.

4. The test may be validated against a battery of test items.

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Appendices

APPENDIX – I
RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
1.	12.00	12.40	12.00	12.13	47.	13.90	13.70	14.00	13.87	93.	16.60	16.50	16.70	16.60
2.	11.60	11.70	12.00	11.77	48.	15.40	15.50	15.40	15.43	94.	11.90	12.40	12.10	12.13
3.	13.80	14.00	14.10	13.97	49.	15.90	16.10	16.20	16.07	95.	16.80	17.10	17.10	17.00
4.	14.50	14.20	14.60	14.43	50.	14.50	14.70	14.90	14.70	96.	15.10	14.80	15.50	15.13
5.	16.00	15.60	16.40	16.00	51.	15.30	15.40	15.70	15.47	97.	16.70	16.70	16.90	16.77
6.	11.10	11.00	11.30	11.13	52.	12.70	13.10	13.10	12.97	98.	12.80	12.40	12.90	12.70
7.	12.50	12.50	12.60	12.53	53.	12.60	12.70	12.70	12.67	99.	13.50	13.90	13.70	13.70
8.	12.50	12.50	12.90	12.63	54.	12.00	12.00	12.20	12.07	100.	13.90	14.00	14.20	14.03
9.	16.40	16.70	16.80	16.63	55.	16.30	15.90	16.80	16.33	101.	16.20	16.10	16.40	16.23
10.	12.40	12.40	12.60	12.47	56.	13.60	13.60	13.70	13.63	102.	11.70	11.70	12.00	11.80
11.	13.60	13.60	13.70	13.63	57.	16.30	16.70	16.30	16.43	103.	14.10	13.60	14.30	14.00
12.	13.90	13.40	14.00	13.77	58.	16.80	16.80	17.00	16.87	104.	14.40	14.00	14.50	14.30
13.	14.00	14.10	14.20	14.10	59.	11.70	12.00	11.90	11.87	105.	13.90	14.10	14.30	14.10
14.	15.50	15.30	16.00	15.60	60.	15.40	15.40	15.40	15.40	106.	14.80	14.70	15.10	14.87
15.	11.40	11.60	11.60	11.53	61.	14.80	14.70	14.80	14.77	107.	15.70	15.60	16.10	15.80
16.	11.20	10.70	11.40	11.10	62.	12.00	12.50	12.10	12.20	108.	11.10	10.90	11.50	11.17
17.	16.40	16.10	16.50	16.33	63.	15.70	15.30	15.70	15.57	109.	16.70	16.40	17.20	16.77
18.	13.70	14.20	13.90	13.93	64.	15.00	15.00	15.20	15.07	110.	13.30	13.60	13.60	13.50
19.	15.10	15.10	15.40	15.20	65.	13.10	13.50	13.50	13.37	111.	12.00	11.70	12.20	11.97
20.	16.70	16.90	16.80	16.80	66.	15.20	14.90	15.30	15.13	112.	12.80	12.80	13.10	12.90
21.	11.40	11.60	11.40	11.47	67.	16.70	16.40	17.00	16.70	113.	16.40	16.80	16.80	16.67
22.	14.10	14.20	14.40	14.23	68.	13.60	13.20	14.10	13.63	114.	14.80	15.20	15.20	15.07
23.	11.10	10.90	11.40	11.13	69.	12.50	12.40	12.70	12.53	115.	14.40	14.80	14.50	14.57
24.	14.90	14.60	15.10	14.87	70.	15.60	15.20	15.60	15.47	116.	11.30	11.60	11.50	11.47
25.	13.00	13.40	13.10	13.17	71.	11.50	11.40	11.80	11.57	117.	17.00	17.00	17.50	17.17
26.	11.80	12.10	11.80	11.90	72.	11.60	11.40	11.70	11.57	118.	16.10	16.00	16.40	16.17
27.	15.70	16.00	15.90	15.87	73.	14.70	14.90	14.90	14.83	119.	13.00	13.50	13.50	13.33
28.	12.70	12.60	12.80	12.70	74.	13.90	13.70	14.30	13.97	120.	12.00	11.60	12.30	11.97
29.	14.30	13.90	14.70	14.30	75.	15.70	16.00	16.00	15.90	121.	15.50	15.10	15.70	15.43
30.	13.70	13.80	14.00	13.83	76.	15.80	16.20	16.20	16.07	122.	13.10	13.30	13.20	13.20
31.	16.50	17.00	16.60	16.70	77.	16.40	16.50	16.80	16.57	123.	12.70	12.30	12.80	12.60
32.	12.40	12.60	12.90	12.63	78.	16.50	16.80	17.00	16.77	124.	11.50	11.10	11.70	11.43
33.	12.60	12.40	12.80	12.60	79.	11.50	11.40	11.90	11.60	125.	13.90	13.50	14.20	13.87
34.	15.60	16.10	15.80	15.83	80.	13.60	14.00	14.00	13.87	126.	12.90	13.10	13.40	13.13
35.	16.40	16.80	16.60	16.60	81.	16.80	17.20	16.90	16.97	127.	15.60	15 50	16.00	15.70
36.	11.20	11.10	11.40	11.23	82.	12.00	11.60	12.10	11.90	128.	13.60	13.30	14.10	13.67
37.	12.50	12.90	12.50	12.63	83.	15.50	15.60	15.90	15.67	129.	14.60	15.00	15.00	14.87
38.	11.20	10.80	11.40	11.13	84.	13.60	13.90	13.90	13.80	130.	16.80	16.50	16.80	16.70
39.	13.50	13.80	13.70	13.67	85.	14.40	14.80	14.80	14.67	131.	11.30	11.70	11.70	11.57
40.	13.30	13.60	13.50	13.47	86.	16.80	16.90	17.20	16.97	132.	16.00	16.40	16.20	16.20
41.	12.60	12.90	12.70	12.73	87.	16.40	16.40	16.60	16.47	133.	11.70	11.60	11.80	11.70
42.	13.90	14.10	14.20	14.07	88.	16.30	15.80	16.40	16.17	134.	11.00	10.90	11.10	11.00
43.	12.60	13.10	12.90	12.87	89.	12.00	12.10	12.50	12.20	135.	11.10	11.10	11.30	11.17
44.	14.00	14.50	14.50	14.33	90.	12.40	12.00	12.70	12.37	136.	16.60	16.40	17.10	16.70
45.	11.60	11.60	12.10	11.77	91.	11.10	11.20	11.20	11.17	137.	13.50	13.60	13.70	13.60
46.	15.00	14.70	15.40	15.03	92.	15.70	15.80	15.90	15.80	138.	12.90	12.80	13.30	13.00

RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS (Continued)

(Scores in seconds)

Slno	I Tr	II Tr	III Tr	AVE	Slno	I Tr	II Tr	III Tr	AVE	Slno	I Tr	II Tr	III Tr	AVE
139.	11.10	11.50	11.50	11.37	194.	11.90	11.40	12.20	11.83	249.	14.50	14.80	15.00	14.77
140.	15.90	16.20	16.30	16.13	195.	16.90	16.80	17.20	16.97	250.	13.20	13.00	13.30	13.17
141.	12.70	12.70	13.10	12.83	196.	11.10	11.20	11.50	11.27	251.	14.40	14.20	14.50	14.37
142.	16.80	17.20	16.90	16.97	197.	15.00	15.50	15.30	15.27	252.	16.60	16.80	16.60	16.73
143.	11.10	10.80	11.30	11.07	198.	16.80	16.40	16.90	16.70	253.	16.60	16.20	16.70	16.50
144.	13.90	13.70	14.10	13.90	199.	12.90	12.90	13.30	13.03	254.	16.20	16.10	16.30	16.20
145.	11.80	11.30	12.00	11.70	200.	11.10	11.20	11.30	11.20	255.	15.30	14.80	15.70	15.27
146.	13.20	13.10	13.50	13.27	201.	14.30	14.10	14.40	14.27	256.	17.00	17.10	17.00	17.03
147.	16.70	16.40	16.90	16.67	202.	16.80	16.80	17.20	16.93	257.	12.50	12.10	12.80	12.47
148.	15.70	16.20	15.90	15.93	203.	13.20	13.50	13.30	13.33	258.	13.80	14.00	14.10	13.97
149.	14.50	14.60	14.60	14.57	204.	15.60	15.30	15.70	15.53	259.	17.00	17.30	17.10	17.13
150.	15.20	15.60	15.30	15.37	205.	16.30	16.40	16.50	16.40	260.	12.40	12.70	12.70	12.60
151.	13.80	14.20	14.20	14.07	206.	12.00	11.80	12.40	12.07	261.	12.00	12.50	12.30	12.27
152.	13.50	14.00	13.50	13.67	207.	11.40	11.10	11.40	11.30	262.	16.60	16.90	17.10	16.87
153.	11.90	11.70	12.20	11.93	208.	13.60	13.20	13.80	13.53	263.	12.20	12.00	12.50	12.23
154.	15.30	15.60	15.30	15.40	209.	15.00	15.30	15.30	15.20	264.	14.60	15.10	14.90	14.87
155.	15.20	15.30	15.20	15.23	210.	12.60	12.60	12.80	12.67	265.	12.60	12.70	12.60	12.63
156.	12.70	12.50	13.10	12.77	211.	14.40	14.70	14.80	14.63	266.	15.00	14.70	15.00	14.90
157.	13.00	12.90	13.20	13.03	212.	12.40	12.40	12.90	12.57	267.	11.50	11.10	11.50	11.37
158.	14.40	14.10	14.70	14.40	213.	13.10	13.40	13.50	13.33	268.	16.60	16.70	16.60	16.63
159.	13.70	13.60	14.10	13.80	214.	17.00	16.50	17.10	16.87	269.	16.70	17.20	17.00	16.97
160.	11.50	11.30	11.90	11.57	215.	16.70	16.70	17.10	16.83	270.	15.60	15.80	15.60	15.67
161.	15.90	16.10	16.40	16.13	216.	14.10	13.70	14.20	14.00	271.	14.10	14.40	14.40	14.30
162.	11.70	12.10	11.90	11.90	217.	14.20	14.20	14.50	14.30	272.	14.30	14.40	14.30	14.33
163.	14.80	14.70	15.30	14.93	218.	15.90	15.70	16.30	15.97	273.	15.90	16.20	16.40	16.17
164.	11.70	11.40	11.80	11.63	219.	11.30	10.90	11.30	11.17	274.	11.90	12.30	12.10	12.10
165.	11.20	10.90	11.30	11.13	220.	11.40	11.70	11.50	11.53	275.	16.10	15.60	16.50	16.07
166.	12.90	12.70	13.40	13.00	221.	11.20	11.40	11.40	11.33	276.	11.20	11.30	11.50	11.33
167.	16.10	16.50	16.10	16.23	222.	16.60	16.20	16.80	16.53	277.	11.80	11.50	12.10	11.80
168.	13.20	12.90	13.70	13.27	223.	14.90	14.90	15.20	15.00	278.	11.50	11.40	11.50	11.47
169.	16.50	16.00	17.00	16.50	224.	15.30	15.20	15.70	15.40	279.	14.60	14.20	14.60	14.47
170.	16.60	16.70	17.20	16.90	225.	11.70	11.70	11.70	11.70	280.	13.40	13.80	13.50	13.57
171.	12.70	12.80	12.80	12.77	226.	13.80	14.20	14.20	14.07	281.	14.40	14.40	14.40	14.40
172.	16.10	15.70	16.40	16.07	227.	16.00	15.70	16.10	15.93	282.	15.80	15.90	15.90	15.87
173.	16.50	16.10	16.50	16.37	228.	12.00	11.90	12.20	12.03	283.	13.00	12.90	13.30	13.07
174.	14.60	14.70	14.80	14.70	229.	11.20	10.90	11.50	11.20	284.	13.00	12.70	13.20	12.97
175.	16.30	16.40	16.80	16.50	230.	16.30	15.90	16.60	16.27	285.	12.60	12.20	12.80	12.53
176.	11.90	11.60	11.90	11.80	231.	15.00	14.90	15.30	15.07	286.	14.00	13.70	14.20	13.97
177.	12.30	12.00	12.40	12.23	232.	11.30	11.10	11.60	11.33	287.	15.70	15.20	16.00	15.63
178.	15.60	15.30	15.80	15.57	233.	15.90	15.60	15.90	15.80	288.	15.80	15.70	16.10	15.87
179.	15.20	15.00	15.30	15.17	234.	15.40	15.00	15.80	15.40	289.	11.50	11.00	11.50	11.33
180.	12.80	13.10	12.90	12.93	235.	11.20	11.70	11.60	11.50	290.	14.50	14.40	14.60	14.50
181.	13.20	13.20	13.50	13.30	236.	12.50	12.30	12.60	12.47	291.	12.50	12.00	12.60	12.37
182.	13.70	13.40	13.90	13.67	237.	12.30	12.60	12.60	12.50	292.	16.30	16.00	16.50	16.27
183.	14.50	14.90	14.80	14.73	238.	14.50	14.90	14.70	14.70	293.	11.60	11.40	12.10	11.70
184.	15.90	16.00	16.30	16.07	239.	16.10	16.10	16.30	16.17	294.	11.30	10.90	11.30	11.17
185.	16.40	16.60	16.90	16.63	240.	14.10	13.60	14.40	14.03	295.	12.30	11.90	12.30	12.17
186.	15.40	15.60	15.80	15.60	241.	11.20	10.90	11.60	11.23	296.	16.00	15.90	16.10	16.00
187.	11.10	11.10	11.60	11.27	242.	12.60	12.50	12.80	12.63	297.	13.50	13.20	13.60	13.43
188.	11.40	11.60	11.60	11.53	243.	13.20	13.60	13.60	13.47	298.	12.10	12.50	12.50	12.37
189.	14.00	14.10	14.50	14.20	244.	12.60	13.00	12.80	12.80	299.	12.80	13.20	13.20	13.07
190.	15.80	15.30	16.30	15.80	245.	14.60	14.40	14.90	14.63	300.	13.90	14.20	14.00	14.03
191.	12.90	13.00	13.10	13.00	246.	12.40	12.40	12.70	12.50	301.	11.70	12.10	12.10	11.97
192.	15.80	16.20	15.80	15.93	247.	16.20	16.50	16.30	16.33	302.	14.50	14.20	14.80	14.50
193.	11.90	12.10	12.10	12.03	248.	14.90	15.20	15.40	15.17	303.	13.00	13.30	13.10	13.13

RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
304.	15.00	14.70	15.20	14.97	359.	15.40	15.20	15.50	15.37	414.	12.60	12.70	12.70	12.67
305	14.50	14.80	14.80	14.70	360.	11.00	11.30	11 10	11.13	415.	16.60	17.00	17 00	16 87
306	13.10	12.70	13.40	13.07	361.	16.90	16.40	17.30	16.87	416.	13.10	12.90	13 50	13.17
307	15.80	15.50	16.10	15.80	362.	14.40,	14.90	14.80	14.70	417.	11 30	10.80	11 60	11 23
308.	12.30	12.80	12.50	12.53	363.	12.70	12.90	13.10	12.90	418.	12.20	11.80	12.50	12.17
309.	16.80	16.80	16.80	16.80	364.	15.60	15.20	16.10	15.63	419.	15,30	15.50	15.60	15.47
310.	13.60	13.80	14.00	13.80	365.	16.20	16.40	16.60	16.40	420.	12.80	12.60	12.90	12.77
311.	13.70	13.20	14.20	13.70	366.	16.20	16.20	16.20	16.20	421.	13.60	14.10	13.70	13.80
312.	16.50	16.50	16.80	16.60	367.	14.50	14.90	14.60	14.67	422.	12.30	12.70	12.70	12.57
313.	11.10	11.00	11.50	11.20	368.	16.00	16.30	16.50	16.27	423.	14.00	14.30	14.30	14.20
314.	14.00	13.60	14.40	14.00	369.	11.70	11.80	11.90	11.80	424.	15.70	16.00	15.60	15.83
315.	12.00	12.10	12.50	12.20	370.	12.60	12.90	12.70	12.73	425.	15.50	15.40	15.50	15.47
316.	16.60	16.50	16.70	16.60	371.	12.60	12.60	12.90	12.70	426.	11.90	11.80	12.40	12.03
317.	11.20	11.50	11.50	11.40	372.	13.30	13.10	13.50	13.30	427.	12.70	13.00	13.00	12.90
318.	15.50	15.40	15.60	15.50	373.	15.30	15.00	15.40	15.23	428.	13.30	13.40	13.50	13.40
319.	12.00	12.30	12.20	12.17	374.	12.90	12.40	13.00	12.77	429.	15.30	15.50	15.40	15.40
320.	12.70	12.30	12.90	12.63	375.	14.40	14.70	14.50	14.53	430.	14.90	14.90	15.20	15.00
321.	11.90	11.90	12.30	12.03	376.	16.20	16.30	16.50	16.33	431.	16.00	15.80	16.50	16.10
322.	12.30	12.50	12.50	12.43	377.	13.90	13.90	14.10	13.97	432.	12.70	12.90	12.90	12.83
323.	13.20	13.60	13.20	13.33	378.	13.30	13.70	13.70	13.57	433.	16.40	16.50	16.80	16.57
324.	15.50	15.50	15.90	15.63	379.	11.50	11.00	11.70	11.40	434.	12.80	13.20	12.90	12.97
325.	16.20	16.10	16.50	16.27	380.	12.90	12.50	13.20	12.87	435.	11.10	11.20	11.20	11.17
326.	11.70	11.70	11.80	11.73	381.	11.20	11.50	11.50	11.40	436.	11.20	11.60	11.40	11.40
327.	16.80	16.60	16.90	16.77	382.	15.40	15.20	15.80	15.47	437.	11.60	11.60	11.70	11.63
328.	16.50	16.50	16.90	16.63	383.	16.70	16.90	17.00	16.87	438.	11.70	11.70	11.80	11.73
329.	15.90	15.40	16.00	15.77	384.	16.40	16.00	16.50	16.30	439.	13.90	13.90	14.00	13.93
330.	15.10	15.10	15.50	15.23	385.	11.60	11.90	11 80	11.77	440.	15.50	15.60	15.60	15.57
331.	13.60	14.10	13.80	13.83	386.	14.70	14.50	14.70	14.63	441.	12.30	12.60	12.50	12.47
332.	14.20	14.40	14.70	14.43	387.	12.90	12.90	13.00	12.93	442.	12.60	12.80	12.90	12.77
333.	15.50	15.30	15.70	15.50	388.	15.80	15.30	16.20	15.77	443.	14.30	14.50	14.40	14.40
334.	16.90	16.50	17.10	16.83	389.	17.00	17.00	17.00	17.00	444.	13 00	13.30	13 30	13.20
335.	14.60	14.10	14.80	14.50	390.	15.80	15.60	16.20	15.87	445.	12.20	12.20	12.30	12.23
336.	11.30	11.30	11.70	11.43	391.	15.90	16.00	16.20	16.03	446.	11.20	10.90	11 60	11 23
337.	16.00	16.20	16.50	16.23	392.	12.40	12.10	12.70	12.40	447.	12.90	12.70	13.10	12.90
338.	12.50	12.90	12.50	12.63	393.	13.70	13.20	14.10	13.67	448.	11.70	11.30	11.90	11.63
339.	11.10	11.30	11.20	11.20	394.	12.60	12.80	12.70	12.70	449.	13.10	12.70	13.30	13.03
340.	13.70	13.40	14.00	13.70	395.	14.90	14.90	15.30	15.03	450.	16.50	16.60	16.80	16.63
341.	12.00	12.30	12.00	12.10	396.	16.00	15.80	16.00	15.93	451.	11.60	11.50	12.10	11.73
342.	12.30	12.40	12.40	12.37	397.	14.10	13.80	14.30	14.07	452.	14.90	14.60	15.30	14.93
343.	15.00	14.70	15.30	15.00	398.	11.70	11.30	12.10	11.70	453.	16.00	16.30	16.40	16.23
344.	13.20	13.20	13.20	13.20	399.	14.40	14.00	14.80	14.40	454.	12.30	12.70	12.50	12.50
345.	13.90	14.30	14.20	14.13	400.	12.20	11.90	12.70	12.27	455.	11.20	10.70	11.50	11.13
346.	16.40	16.70	16.60	16.57	401.	16.80	16.60	17.10	16.83	456.	15.80	15.70	16.10	15.87
347.	15.90	16.40	16.20	16.17	402.	15.90	16.00	16.20	16.03	457.	13.40	13.60	13.60	13.53
348.	13.20	13.40	13.30	13.30	403.	13.10	13.10	13.50	13.23	458.	15.00	14.80	15.30	15.03
349.	12.70	13.00	13.10	12.93	404.	15.20	15.10	15.30	15.20	459.	16.90	16.70	17.00	16.87
350.	14.20	14.00	14.50	14.23	405.	15.20	15.40	15.30	15.30	460.	11.50	11.20	11.80	11.50
351.	11.80	11.50	12.20	11.83	406.	14.90	15.30	15.00	15.07	461.	14.10	13.90	14.30	14.10
352.	14.60	14.80	14.60	14.67	407.	13.50	13.80	13.80	13.70	462.	13.30	13.00	13.60	13.30
353.	16.80	17.10	16.90	16.93	408.	14.70	14.70	14.70	14.70	463.	15.00	15.10	15.00	15.03
354.	15.50	15.60	15.70	15.67	409.	14.30	14.60	14.40	14.43	464.	12.50	12.90	12.80	12.73
355.	11.70	11.50	12.10	11.77	410.	13.30	13.60	13.60	13.50	465.	13.70	14.00	14.00	13.90
356.	14.00	13.90	14.40	14.10	411.	15.40	15.80	15.70	15.63	466.	11.60	11.60	11.80	11.67
357.	13.90	14.00	14.10	14.00	412.	13.50	14.00	13.90	13.80	467.	11.40	11.60	11.60	11.53
358.	11.40	11.60	11.60	11.53	413.	13.00	13.20	13.40	13.20	468.	11.40	11.00	11.70	11.37

RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
469.	16.90	17.20	17.20	17.10	524.	14.20	14.40	14.50	14.37	579.	12.30	12.40	12.40	12.37
470.	14.70	14.70	15.00	14.80	525.	16.90	17.10	17.00	17.00	580.	15.20	15.50	15.20	15.30
471.	11.40	11.00	11.60	11.33	526.	11.20	11.40	11.30	11.30	581.	14.30	14.60	14.40	14.43
472.	13.60	13.20	13.80	13.53	527.	12.00	12.40	12.10	12.17	582.	12.50	12.80	12.80	12.70
473.	11.10	10.80	11.60	11.17	528.	13.70	13.70	14.10	13.83	583.	14.30	13.80	14.60	14.23
474.	13.90	13.70	13.90	13.83	529.	14.40	14.20	14.70	14.43	584.	14.80	15.10	14.80	14.90
475.	12.90	13.10	13.40	13.13	530.	13.20	13.60	13.40	13.40	585.	13.00	12.90	13.30	13.07
476.	15.30	15.70	15.80	15.60	531.	13.70	13.80	14.10	13.87	586.	16.30	16.80	16.50	16.53
477.	15.00	15.10	15.40	15.17	532.	15.60	15.80	15.70	15.70	587.	11.20	11.10	11.40	11.23
478.	16.60	17.00	17.00	16.87	533.	12.70	12.20	12.80	12.57	588.	13.50	14.00	13.90	13.80
479.	13.50	13.60	13.80	13.63	534.	13.40	13.30	13.90	13.53	589.	12.00	11.90	12.40	12.10
480.	13.00	13.10	13.30	13.13	535.	16.40	16.80	16.50	16.57	590.	13.00	13.30	13.40	13.23
481.	14.20	14.00	14.60	14.27	536.	11.30	10.90	11.60	11.27	591.	12.80	12.50	13.10	12.80
482.	12.00	11.50	12.30	11.93	537.	11.70	11.30	11.90	11.63	592.	11.30	10.90	11.40	11.20
483.	12.60	12.50	12.70	12.60	538.	13.80	13.50	13.90	13.73	593.	14.20	13.70	14.40	14.10
484.	14.00	14.20	14.30	14.17	539.	16.10	16.50	16.40	16.33	594.	16.00	16.40	16.20	16.20
485.	12.20	12.10	12.50	12.27	540.	14.20	14.10	14.40	14.23	595.	15.50	15.80	15.50	15.60
486.	15.30	15.50	15.60	15.47	541.	14.30	14.40	14.60	14.43	596.	11.50	11.50	12.00	11.67
487.	15.40	15.60	15.50	15.50	542.	16.00	16.30	16.00	16.10	597.	16.00	15.90	16.30	16.07
488.	13.60	13.90	13.80	13.77	543.	16.20	15.70	16.40	16.10	598.	12.40	12.60	12.80	12.60
489.	16.80	17.00	17.00	16.93	544.	15.60	15.40	15.60	15.53	599.	11.80	12.20	12.10	12.03
490.	12.10	12.00	12.50	12.20	545.	15.30	15.60	15.60	15.50	600.	15.40	15.30	15.60	15.43
491.	14.20	13.90	14.50	14.20	546.	16.60	16.20	16.60	16.47	601.	11.70	11.70	12.10	11.83
492.	14.50	14.20	14.80	14.50	547.	11.30	11.30	11.60	11.40	602.	14.40	14.90	14.90	14.73
493.	16.50	16.70	16.90	16.70	548.	13.20	13.00	13.60	13.27	603.	14.40	14.30	14.40	14.37
494.	12.20	12.20	12.30	12.23	549.	11.20	11.40	11.70	11.43	604.	11.60	11.80	11.90	11.77
495.	13.10	13.30	13.40	13.27	550.	15.90	16.30	16.00	16.07	605.	12.20	12.70	12.30	12.40
496.	12.50	12.40	12.90	12.60	551.	15.20	15.10	15.60	15.30	606.	12.00	12.30	12.40	12.23
497.	12.00	11.80	12.30	12.03	552.	12.20	12.50	12.30	12.33	607.	14.00	13.90	14.30	14.07
498.	15.00	15.00	15.40	15.13	553.	16.40	16.40	16.70	16.50	608.	16.40	16.70	16.70	16.60
499.	12.80	13.00	13.00	12.93	554.	16.30	15.90	16.60	16.27	609.	15.90	15.90	16.30	16.03
500.	13.50	13.80	14.00	13.77	555.	12.60	12.90	12.70	12.73	610.	15.30	15.40	15.60	15.43
501.	13.20	13.60	13.30	13.37	556.	14.50	14.30	14.70	14.50	611.	12.70	12.60	13.00	12.77
502.	11.50	11.00	12.00	11.50	557.	15.30	15.50	15.40	15.40	612.	11.90	12.30	12.00	12.07
503.	13.70	13.90	14.20	13.93	558.	15.70	15.40	15.70	15.60	613.	12.10	12.00	12.40	12.17
504.	15.90	16.30	15.90	16.03	559.	13.30	12.90	13.50	13.23	614.	15.70	15.40	16.00	15.70
505.	13.80	14.20	14.20	14.07	560.	17.00	16.90	17.40	17.10	615.	14.90	14.80	15.30	15.00
506.	13.50	13.00	13.50	13.33	561.	12.10	12.40	12.40	12.30	616.	13.00	13.10	13.30	13.13
507.	16.00	15.80	16.00	15.93	562.	14.70	14.70	15.10	14.83	617.	15.80	15.80	16.00	15.87
508.	12.40	12.80	12.60	12.60	563.	13.10	13.20	13.50	13.27	618.	14.20	14.10	14.40	14.23
509.	15.60	15.60	16.10	15.77	564.	15.70	15.30	15.80	15.60	619.	15.50	15.40	15.80	15.57
510.	16.40	16.70	16.50	16.53	565.	15.50	15.70	15.50	15.57	620.	15.00	14.80	15.40	15.07
511.	14.00	13.90	14.10	14.00	566.	13.90	14.30	14.10	14.10	621.	13.20	12.80	13.40	13.13
512.	12.00	12.20	12.30	12.17	567.	15.20	15.10	15.20	15.17	622.	14.70	14.60	14.90	14.73
513.	11.90	12.30	12.00	12.07	568.	12.80	12.80	12.90	12.83	623.	12.10	12.10	12.30	12.17
514.	13.20	13.50	13.30	13.33	569.	14.00	14.00	14.40	14.13	624.	15.60	15.30	15.70	15.53
515.	16.90	16.50	17.20	16.87	570.	11.30	11.80	11.70	11.60	625.	12.00	12.30	12.30	12.20
516.	14.10	14.10	14.20	14.13	571.	12.00	12.30	12.30	12.20	626.	13.60	13.80	13.90	13.77
517.	14.60	14.30	14.90	14.60	572.	12.60	12.40	12.80	12.60	627.	13.60	13.40	13.80	13.60
518.	14.70	14.90	15.10	14.90	573.	11.10	11.10	11.40	11.20	628.	13.20	13.30	13.40	13.30
519.	16.20	16.10	16.40	16.23	574.	14.70	14.60	15.20	14.83	629.	14.10	14.30	14.30	14.23
520.	16.10	16.40	16.50	16.33	575.	15.60	15.70	15.60	15.63	630.	14.30	14.30	14.50	14.37
521.	16.70	16.60	17.10	16.80	576.	12.70	13.10	12.90	12.90	631.	14.00	14.30	14.20	14.17
522.	11.70	11.30	11.80	11.60	577.	15.60	15.30	16.00	15.63	632.	13.90	14.10	14.30	14.10
523.	15.20	15.30	15.20	15.23	578.	12.40	12.60	12.90	12.63	633.	14.20	13.80	14.70	14.23

RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS (Continued)

(Scores in seconds)

Sl.No	I Tr	II Tr	III Tr	AVE	Sl.No	I Tr	II Tr	III Tr	AVE	Sl.No	I Tr	II Tr	III Tr	AVE
634.	13.60	13.40	13.70	13.57	689.	13.50	13.90	13.60	13.67	744.	15.20	15.60	15.60	15.45
635.	15.90	16.20	16.40	16.17	690.	13.00	12.80	13.10	12.97	745.	13.70	14.10	13.70	13.83
636.	15.20	15.10	15.50	15.27	691.	15.70	15.90	16.10	15.90	746.	14.90	14.80	15.10	14.93
637.	11.90	12.00	12.00	11.97	692.	13.50	13.40	14.00	13.63	747.	16.80	17.10	17.10	17.00
638.	13.40	13.90	13.70	13.67	693.	16.50	16.80	16.90	16.73	748.	11.30	11.60	11.70	11.53
639.	13.10	13.20	13.40	13.23	694.	14.20	13.90	14.50	14.20	749.	12.20	11.90	12.60	12.23
640.	15.60	15.80	15.70	15.70	695.	11.60	11.90	11.80	11.77	750.	11.50	11.50	12.00	11.67
641.	13.50	13.20	14.00	13.57	696.	14.50	14.90	14.60	14.67	751.	11.40	11.60	11.40	11.47
642.	15.60	15.10	15.80	15.50	697.	16.10	16.20	16.20	16.17	752.	13.20	12.90	13.30	13.13
643.	11.20	11.00	11.30	11.17	698.	16.00	15.70	16.40	16.03	753.	11.80	11.90	12.00	11.90
644.	13.40	13.80	13.80	13.67	699.	11.20	10.90	11.30	11.13	754.	14.40	14.90	14.70	14.67
645.	16.80	16.90	16.80	16.83	700.	15.50	15.90	15.80	15.73	755.	15.10	15.30	15.40	15.27
646.	13.20	12.80	13.20	13.07	701.	13.80	13.50	13.90	13.73	756.	12.30	12.20	12.60	12.37
647.	13.00	13.30	13.20	13.17	702.	14.10	13.60	14.40	14.03	757.	12.20	12.60	12.30	12.37
648.	13.60	13.20	13.80	13.53	703.	14.10	14.40	14.40	14.30	758.	15.20	15.30	15.50	15.33
649.	15.80	15.70	16.20	15.90	704.	15.90	15.50	16.30	15.90	759.	15.40	15.70	15.70	15.60
650.	12.30	12.20	12.50	12.33	705.	13.30	13.40	13.50	13.40	760.	16.20	16.30	16.50	16.33
651.	12.40	12.80	12.80	12.67	706.	12.20	12.50	12.50	12.40	761.	15.10	15.30	15.60	15.33
652.	11.00	11.20	11.00	11.07	707.	15.10	15.40	15.50	15.33	762.	13.80	14.30	14.20	14.10
653.	13.00	13.50	13.20	13.23	708.	16.50	16.20	16.60	16.43	763.	11.30	11.70	11.30	11.43
654.	14.10	13.90	14.30	14.10	709.	11.40	11.70	11.60	11.57	764.	15.10	14.60	15.30	15.00
655.	12.90	12.50	13.20	12.87	710.	12.30	12.80	12.40	12.50	765.	12.10	11.70	12.30	12.03
656.	12.80	12.30	13.10	12.73	711.	13.80	14.00	14.20	14.00	766.	12.30	12.00	12.70	12.33
657.	14.70	15.00	15.20	14.97	712.	13.70	14.20	14.10	14.00	767.	14.00	13.70	14.40	14.03
658.	15.70	15.70	16.20	15.87	713.	14.60	14.20	15.00	14.60	768.	15.30	15.10	15.40	15.27
659.	12.10	12.50	12.10	12.23	714.	13.20	13.20	13.30	13.23	769.	16.30	16.70	16.70	16.57
660.	12.50	12.40	12.70	12.53	715.	14.30	13.90	14.50	14.23	770.	15.70	15.40	16.20	15.77
661.	16.30	16.70	16.60	16.53	716.	14.20	13.80	14.60	14.20	771.	13.60	13.70	13.70	13.67
662.	13.10	13.10	13.50	13.23	717.	15.30	15.40	15.50	15.40	772.	13.70	13.60	13.80	13.70
663.	11.30	10.90	11.50	11.23	718.	16.10	16.20	16.40	16.23	773.	11.60	11.40	11.90	11.63
664.	15.20	14.70	15.50	15.13	719.	13.90	13.50	14.00	13.80	774.	11.40	11.10	11.50	11.33
665.	12.60	12.70	12.70	12.67	720.	13.70	14.20	14.00	13.97	775.	12.30	12.50	12.50	12.43
666.	11.40	11.30	11.70	11.47	721.	11.40	11.10	11.70	11.40	776.	16.90	17.00	17.20	17.03
667.	15.30	15.30	15.50	15.37	722.	13.70	14.20	14.10	14.00	777.	16.90	16.50	16.90	16.77
668	15.10	15.40	15.50	15.33	723.	11.10	11.10	11.50	11.23	778.	14.50	14.40	14.60	14.50
669.	16.40	16.20	16.50	16.37	724.	14.10	14.10	14.50	14.23	779.	12.50	12.80	12.60	12.63
670.	12.30	12.00	12.70	12.33	725.	15.10	15.10	15.50	15.23	780.	12.60	13.00	12.60	12.73
671.	14.60	14.50	14.70	14.60	726.	11.10	11.00	11.50	11.20	781.	14.50	14.20	14.90	14.53
672.	11.10	11.40	11.50	11.33	727.	16.30	16.20	16.80	16.43	782.	14.50	14.90	14.60	14.67
673.	11.60	11.90	11.70	11.73	728.	12.50	12.80	12.50	12.60	783.	11.10	11.50	11.10	11.23
674.	15.70	15.50	15.80	15.67	729.	15.90	15.70	16.30	15.97	784.	15.50	15.50	15.70	15.57
675.	12.40	12.70	12.90	12.67	730.	12.00	12.00	12.50	12.17	785.	11.80	11.90	12.10	11.93
676.	11.60	11.30	12.00	11.63	731.	14.30	14.50	14.70	14.50	786.	11.50	11.20	11.90	11.53
677.	16.40	16.20	16.60	16.40	732.	14.20	13.70	14.20	14.03	787.	14.10	14.00	14.20	14.10
678.	16.20	16.50	16.30	16.33	733.	16.30	15.90	16.80	16.33	788.	11.90	11.80	12.40	12.03
679.	16.00	15.60	16.20	15.93	734.	12.30	12.40	12.70	12.47	789.	14.00	13.80	14.20	14.00
680.	11.50	11.80	11.50	11.60	735.	13.40	13.60	13.80	13.60	790.	13.90	14.20	14.00	14.03
681.	16.30	16.80	16.70	16.60	736.	13.00	13.30	13.20	13.17	791.	16.40	16.50	16.60	16.50
682.	13.20	13.70	13.50	13.47	737.	15.80	15.90	16.00	15.90	792.	14.50	14.20	14.70	14.47
683.	12.40	12.20	12.90	12.50	738.	13.40	13.40	13.50	13.43	793.	11.00	10.90	11.10	11.00
684.	11.40	11.20	11.80	11.47	739.	11.90	11.40	12.40	11.90	794.	11.90	12.00	12.20	12.03
685.	11.70	12.10	12.10	11.97	740.	13.80	13.70	13.90	13.80	795.	12.90	12.50	13.30	12.90
686.	16.80	17.10	17.10	17.00	741.	13.70	13.70	14.10	13.83	796.	16.30	15.80	16.30	16.13
687.	16.90	17.20	17.10	17.07	742.	12.90	13.10	12.90	12.97	797.	13.40	13.10	13.80	13.43
688.	15.80	15.50	16.20	15.83	743.	14.00	14.00	14.40	14.13	798.	13.50	13.30	13.80	13.53

RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
799.	11.80	12.20	12.10	12.03	854.	11.00	11.50	11.10	11.20	909.	15.40	15.40	15.50	15.43
800.	11.70	12.00	12.10	11.93	855.	12.90	13.00	13.10	13.00	910.	12.20	12.60	12.60	12.47
801.	12.10	12.10	12.20	12.13	856.	16.90	16.40	17.10	16.80	911.	12.70	12.30	12.90	12.63
802.	15.70	15.70	15.70	15.70	857.	11.50	11.90	11.70	11.70	912.	15.70	16.00	15.90	15.87
803.	12.80	12.60	13.20	12.87	858.	12.60	12.20	12.70	12.50	913.	11.60	12.10	11.70	11.80
804.	14.00	13.50	14.20	13.90	859.	12.60	12.50	12.90	12.67	914.	12.60	12.20	12.80	12.53
805.	11.30	11.10	11.40	11.27	860.	16.90	16.60	17.20	16.90	915.	13.80	13.60	14.20	13.87
806.	13.20	12.70	13.50	13.13	861.	15.30	15.30	15.30	15.30	916.	13.70	13.30	14.10	13.70
807.	16.40	16.50	16.50	16.47	862.	11.50	11.70	11.90	11.70	917.	11.90	12.10	12.00	12.00
808.	13.70	14.20	14.10	14.00	863.	11.50	11.90	11.80	11.73	918.	15.90	16.20	16.30	16.13
809.	15.30	15.80	15.50	15.53	864.	14.60	14.60	15.00	14.73	919.	13.40	13.30	13.80	13.50
810.	14.60	14.60	14.70	14.63	865.	13.90	14.30	14.10	14.10	920.	15.10	14.70	15.50	15.10
811.	12.20	11.70	12.50	12.13	866.	12.20	11.90	12.60	12.23	921.	12.90	12.80	13.20	12.97
812.	16.10	16.30	16.20	16.20	867.	16.40	16.80	16.40	16.53	922.	15.50	15.10	15.80	15.47
813.	16.40	16.10	16.60	16.37	868.	13.70	13.20	14.00	13.63	923.	14.90	15.40	15.00	15.10
814.	12.40	12.80	12.60	12.60	869.	16.80	17.10	17.20	17.03	924.	11.60	11.70	11.70	11.67
815.	14.90	15.30	15.30	15.17	870.	12.70	12.60	12.80	12.70	925.	11.30	11.40	11.80	11.50
816.	15.30	14.80	15.30	15.13	871.	12.70	12.40	12.70	12.60	926.	13.60	13.30	13.80	13.57
817.	14.60	15.00	15.00	14.87	872.	14.30	14.70	14.60	14.53	927.	13.90	14.20	13.90	14.00
818.	13.50	13.70	13.90	13.70	873.	16.60	17.00	16.80	16.80	928.	11.40	11.50	11.80	11.57
819.	13.10	13.50	13.40	13.33	874.	14.00	14.50	14.40	14.30	929.	16.90	16.80	17.30	17.00
820.	16.90	16.80	17.00	16.90	875.	12.00	11.70	12.30	12.00	930.	16.40	16.50	16.80	16.57
821.	14.70	15.00	14.80	14.83	876.	15.30	15.20	15.40	15.30	931.	12.30	12.30	12.70	12.43
822.	12.70	13.10	13.00	12.93	877.	13.60	13.60	14.10	13.77	932.	14.40	14.10	14.60	14.37
823.	15.00	14.90	15.40	15.10	878.	14.80	14.80	15.10	14.90	933.	13.80	13.70	14.10	13.87
824.	14.40	14.80	14.70	14.63	879.	16.90	17.00	17.00	16.97	934.	12.80	12.90	13.20	12.97
825.	12.80	12.50	13.00	12.77	880.	11.50	11.80	11.80	11.70	935.	16.30	16.10	16.60	16.33
826.	14.70	14.40	15.00	14.70	881.	11.30	11.70	11.80	11.60	936.	12.70	12.70	12.90	12.77
827.	11.80	12.00	11.90	11.90	882.	11.60	11.70	11.80	11.70	937.	13.20	13.10	13.60	13.30
828.	15.50	15.90	15.60	15.67	883.	11.20	10.80	11.20	11.07	938.	14.60	14.60	15.00	14.73
829.	14.40	14.50	14.70	14.53	884.	16.90	16.60	17.30	16.93	939.	11.90	11.80	12.10	11.93
830.	15.40	15.90	15.70	15.67	885.	13.40	13.60	13.90	13.63	940.	16.40	16.60	16.90	16.70
831.	14.40	14.80	14.90	14.70	886.	14.30	14.50	14.70	14.50	941.	11.50	11.00	11.70	11.40
832.	15.20	15.20	15.20	15.20	887.	11.80	12.30	12.10	12.07	942.	14.30	14.80	14.60	14.57
833.	12.20	12.70	12.70	12.53	888.	16.80	16.40	17.20	16.80	943.	13.10	12.80	13.60	13.17
834.	15.70	15.80	16.00	15.83	889.	16.50	16.40	16.90	16.60	944.	15.30	15.40	15.30	15.33
835.	14.10	13.80	14.50	14.13	890.	14.10	13.70	14.50	14.10	945.	15.50	15.70	15.90	15.70
836.	12.70	12.20	13.00	12.63	891.	14.10	14.50	14.30	14.30	946.	16.30	16.50	16.50	16.43
837.	13.00	13.10	13.40	13.17	892.	12.30	12.40	12.50	12.40	947.	11.10	11.40	11.50	11.33
838.	11.80	11.60	12.10	11.83	893.	16.20	16.40	16.40	16.33	948.	13.70	13.50	14.00	13.73
839.	16.00	15.50	16.40	15.97	894.	13.00	13.20	13.20	13.13	949.	15.90	15.90	16.20	16.00
840.	12.50	12.80	12.80	12.70	895.	16.80	16.80	17.10	16.90	950.	15.40	15.70	15.60	15.57
841.	12.10	12.60	12.30	12.33	896.	11.10	10.90	11.20	11.07	951.	13.40	13.70	13.80	13.63
842.	11.70	11.50	12.00	11.73	897.	14.40	14.10	14.60	14.37	952.	12.80	13.00	13.10	12.97
843.	14.40	14.00	14.70	14.37	898.	13.60	13.40	14.00	13.67	953.	15.90	16.10	16.10	16.03
844.	13.60	13.90	13.80	13.77	899.	12.20	11.80	12.60	12.20	954.	13.40	13.70	13.90	13.67
845.	12.00	11.60	12.50	12.03	900.	14.90	15.00	15.30	15.07	955.	13.80	13.60	14.10	13.83
846.	16.60	16.70	17.10	16.80	901.	11.00	10.70	11.20	10.97	956.	12.80	12.90	12.90	12.87
847.	12.20	12.70	12.20	12.37	902.	15.20	15.30	15.40	15.30	957.	12.90	13.00	13.40	13.10
848.	13.60	13.30	13.80	13.57	903.	14.20	14.00	14.30	14.17	958.	12.60	13.10	12.70	12.80
849.	11.40	11.70	11.90	11.67	904.	14.00	14.40	14.10	14.17	959.	16.50	16.90	16.60	16.67
850.	16.70	16.40	17.00	16.70	905.	13.90	13.90	14.10	13.97	960.	16.50	16.30	16.60	16.47
851.	16.50	16.70	16.90	16.70	906.	12.20	12.50	12.70	12.47	961.	12.40	12.80	12.60	12.60
852.	13.20	13.10	13.50	13.27	907.	15.60	15.50	16.10	15.73	962.	17.00	17.40	17.40	17.27
853.	14.40	14.80	14.60	14.60	908.	12.90	13.00	13.30	13.07	963.	15.30	15.20	15.40	15.30

RAW SCORES OF NEW AGILITY TEST OF 11 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
964.	15.90	15.90	16.30	16.03	1019.	12.30	11.90	12.40	12.20	1074.	15.30	15.60	15.40	15.43
965.	13.20	13.70	13.40	13.43	1020.	12.60	12.50	13.10	12.73	1075.	15.80	16.10	15.80	15.90
966.	16.90	17.10	17.10	17.03	1021.	12.10	11.80	12.30	12.07	1076.	16.00	15.90	16.30	16.07
967.	14.70	14.20	14.70	14.53	1022.	15.70	15.60	15.90	15.73	1077.	14.30	14.50	14.60	14.47
968.	11.10	11.40	11.10	11.20	1023.	15.30	14.80	15.60	15.23	1078.	16.20	16.50	16.20	16.30
969.	11.70	11.40	12.20	11.77	1024.	14.90	14.70	15.40	15.00	1079.	12.90	13.10	13.20	13.07
970.	11.60	11.60	11.70	11.63	1025.	13.70	14.00	13.80	13.83	1080.	15.40	15.30	15.50	15.40
971.	11.50	12.00	11.70	11.73	1026.	15.30	15.00	15.70	15.33	1081.	13.50	13.80	13.70	13.67
972.	11.80	11.70	12.10	11.87	1027.	13.00	12.50	13.30	12.93	1082.	12.20	11.90	12.70	12.27
973.	14.10	13.80	14.50	14.13	1028.	11.10	11.50	11.30	11.30	1083.	11.20	11.70	11.30	11.40
974.	14.60	14.80	14.70	14.70	1029.	15.10	14.90	15.10	15.03	1084	13.30	13.30	13.70	13.43
975.	13.90	14.00	14.30	14.07	1030.	12.60	12.90	13.10	12.87	1085.	15.20	14.80	15.30	15.10
976.	11.20	10.90	11.70	11.27	1031.	12.70	12.30	13.20	12.73	1086.	11.70	11.90	11.90	11.83
977.	14.10	13.70	14.40	14.07	1032.	11.00	11.30	11.50	11.27	1087.	14.50	14.30	14.60	14.47
978.	12.90	13.30	12.90	13.03	1033.	13.00	13.40	13.30	13.23	1088.	13.90	13.50	14.40	13.93
979.	13.60	13.70	13.80	13.70	1034.	11.40	11.30	11.80	11.50	1089.	13.90	13.60	14.30	13.93
980.	14.80	14.70	15.20	14.90	1035.	15.60	15.50	15.70	15.60	1090.	16.00	15.60	16.20	15.93
981.	13.80	13.40	13.90	13.70	1036.	11.90	12.00	12.00	11.97	1091.	12.70	12.60	12.70	12.67
982.	12.10	12.50	12.40	12.33	1037.	15.60	15.90	16.10	15.87	1092.	14.10	14.40	14.20	14.23
983.	13.50	13.90	13.50	13.63	1038.	13.30	13.40	13.40	13.37	1093.	12.10	12.00	12.50	12.20
984.	16.70	16.40	16.80	16.63	1039.	11.50	11.80	11.60	11.63	1094.	15.70	15.50	16.20	15.80
985.	16.70	17.20	16.80	16.90	1040.	13.60	13.80	13.70	13.70	1095.	15.90	16.00	15.90	15.93
986.	16.20	16.20	16.40	16.27	1041.	14.20	14.20	14.30	14.23	1096	15.50	15.10	15.90	15.50
987.	15.30	15.20	15.80	15.43	1042.	13.00	12.70	13.10	12.93	1097.	13.20	13.20	13.50	13.30
988.	13.80	13.90	13.90	13.87	1043.	11.20	11.50	11.30	11.33	1098.	13.10	13.20	13.40	13.23
989.	15.10	14.90	15.40	15.13	1044.	12.00	12.20	12.00	12.07	1099.	11.50	11.60	11.80	11.63
990.	15.50	15.70	15.90	15.70	1045.	15.80	15.70	16.00	15.83	1100.	14.60	14.40	15.00	14.67
991.	14.40	14.60	14.70	14.57	1046.	13.10	13.00	13.50	13.20	1101.	15.50	15.60	15.90	15.67
992.	15.40	15.50	15.50	15.47	1047.	14.60	14.50	14.70	14.60	1102.	15.90	16.00	15.90	15.93
993.	16.30	16.70	16.80	16.60	1048.	11.10	11.20	11.40	11.23	1103.	12.90	13.00	13.30	13.07
994.	11.80	11.80	11.90	11.83	1049.	12.30	12.40	12.50	12.40	1104.	12.30	11.90	12.60	12.27
995.	14.00	14.40	14.10	14.17	1050.	16.20	16.30	16.50	16.33	1105.	13.50	13.40	13.70	13.53
996.	11.50	11.90	11.90	11.77	1051.	15.40	15.10	15.50	15.33	1106.	14.40	14.20	14.40	14.33
997.	15.60	15.60	15.70	15.63	1052.	13.10	13.40	13.40	13.30	1107.	14.30	14.80	14.70	14.60
998.	15.10	15.40	15.50	15.33	1053.	16.10	16.50	16.30	16.30	1108.	12.80	12.30	13.10	12.73
999.	16.90	16.90	17.40	17.07	1054.	12.60	12.30	12.70	12.53	1109.	13.40	13.10	13.50	13.33
1000.	16.20	15.90	16.40	16.17	1055.	14.70	15.00	15.20	14.97	1110.	14.30	14.10	14.60	14.33
1001.	12.50	12.20	12.70	12.47	1056.	16.10	15.90	16.30	16.10	1111.	12.10	12.10	12.60	12.27
1002.	11.80	11.40	12.00	11.73	1057.	13.90	13.50	14.30	13.90	1112.	11.80	11.50	12.20	11.83
1003.	13.20	13.40	13.50	13.37	1058.	11.90	11.80	12.10	11.93	1113.	13.30	13.30	13.50	13.37
1004.	15.00	15.40	15.40	15.27	1059.	17.00	17.30	17.30	17.20	1114.	16.80	16.40	17.30	16.83
1005.	11.40	11.80	11.70	11.63	1060.	12.70	12.60	12.70	12.67	1115.	16.50	16.10	16.60	16.40
1006.	12.40	12.00	12.70	12.37	1061.	11.80	12.20	12.20	12.07	1116.	17.00	17.40	17.30	17.23
1007.	16.80	17.00	17.20	17.00	1062.	15.00	14.80	15.30	15.03	1117.	15.80	15.40	16.10	15.77
1008.	16.30	16.60	16.60	16.50	1063.	15.80	16.10	16.00	15.97	1118.	12.50	12.50	12.90	12.63
1009.	16.60	16.60	16.60	16.60	1064.	14.50	14.50	15.00	14.67	1119.	16.20	16.30	16.60	16.37
1010.	11.00	10.70	11.20	10.97	1065.	16.10	15.90	16.50	16.17	1120.	15.20	14.70	15.30	15.07
1011.	14.10	14.40	14.30	14.27	1066.	13.10	12.60	13.10	12.93	1121.	16.90	17.10	17.40	17.13
1012.	14.90	14.80	15.30	15.00	1067.	11.50	11.90	11.60	11.67	1122.	12.20	12.30	12.40	12.30
1013.	11.70	12.20	11.90	11.93	1068.	12.40	12.20	12.90	12.50					
1014.	11.50	11.80	11.90	11.73	1069.	14.90	14.60	15.10	14.87					
1015.	15.30	15.40	15.30	15.33	1070.	16.60	17.10	17.10	16.93					
1016.	15.80	15.70	16.20	15.90	1071.	11.60	11.20	12.00	11.60					
1017.	12.40	12.20	12.70	12.43	1072.	15.90	15.90	16.20	16.00					
1018.	14.30	14.50	14.70	14.50	1073.	16.10	15.60	16.50	16.07					

APPENDIX - II
RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS
(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
1.	11.80	12.20	11.80	11.93	49.	15.80	16.10	16.10	16.00	97.	16.70	16.70	16.90	16.77
2.	11.40	11.50	11.80	11.57	50.	14.40	14.60	14.80	14.60	98.	12.70	12.20	12.80	12.57
3.	13.70	13.90	14.00	13.87	51.	15.20	15.30	15.70	15.40	99.	13.40	13.80	13.50	13.57
4.	14.50	14.10	14.60	14.40	52.	12.60	13.00	13.00	12.87	100.	13.80	13.90	14.10	13.93
5.	15.90	15.60	16.40	15.97	53.	12.50	12.50	12.60	12.53	101.	16.10	16.00	16.30	16.13
6.	10.90	10.80	11.10	10.93	54.	11.80	11.80	12.10	11.90	102.	11.50	11.50	11.80	11.60
7.	12.40	12.30	12.50	12.40	55.	16.30	15.90	16.70	16.30	103.	14.00	13.60	14.20	13.93
8.	12.30	12.30	12.70	12.43	56.	13.50	13.50	13.60	13.53	104.	14.30	13.90	14.40	14.20
9.	16.40	16.70	16.80	16.63	57.	16.20	16.70	16.30	16.40	105.	13.80	14.00	14.20	14.00
10.	12.20	12.20	12.40	12.27	58.	16.80	16.70	17.00	16.83	106.	14.70	14.60	15.00	14.77
11.	13.50	13.50	13.50	13.50	59.	11.50	11.80	11.70	11.67	107.	15.60	15.50	16.10	15.73
12.	13.80	13.30	13.90	13.67	60.	15.30	15.40	15.30	15.33	108.	10.90	10.70	11.30	10.97
13.	13.90	14.00	14.10	14.00	61.	14.70	14.60	14.80	14.70	109.	16.70	16.40	17.20	16.77
14.	15.40	15.30	15.90	15.53	62.	11.80	12.30	11.90	12.00	110.	13.10	13.40	13.50	13.33
15.	11.20	11.40	11.40	11.33	63.	15.60	15.30	15.70	15.53	111.	11.90	11.50	12.00	11.80
16.	11.00	10.50	11.20	10.90	64.	14.90	14.90	15.20	15.00	112.	12.70	12.60	13.00	12.77
17.	16.40	16.10	16.40	16.30	65.	13.00	13.30	13.40	13.23	113.	16.40	16.70	16.80	16.63
18.	13.60	14.00	13.80	13.80	66.	15.20	14.90	15.30	15.13	114.	14.70	15.10	15.10	14.97
19.	15.00	15.00	15.30	15.10	67.	16.70	16.40	17.00	16.70	115.	14.30	14.70	14.40	14.47
20.	16.70	16.90	16.80	16.80	68.	13.50	13.00	14.00	13.50	116.	11.10	11.40	11.30	11.27
21.	11.20	11.40	11.20	11.27	69.	12.30	12.30	12.60	12.40	117.	17.00	17.00	17.50	17.17
22.	14.00	14.10	14.30	14.13	70.	15.50	15.20	15.60	15.43	118.	16.00	16.00	16.40	16.13
23.	10.90	10.70	11.20	10.93	71.	11.30	11.20	11.60	11.37	119.	12.90	13.40	13.30	13.20
24.	14.90	14.60	15.10	14.87	72.	11.40	11.20	11.50	11.37	120.	11.80	11.40	12.10	11.77
25.	12.90	13.20	13.00	13.03	73.	14.60	14.80	14.80	14.73	121.	15.50	15.10	15.70	15.43
26.	11.60	11.90	11.60	11.70	74.	13.80	13.60	14.20	13.87	122.	13.00	13.10	13.10	13.07
27.	15.70	15.90	15.90	15.83	75.	15.70	15.90	16.00	15.87	123.	12.60	12.20	12.60	12.47
28.	12.50	12.40	12.60	12.50	76.	15.70	16.10	16.20	16.00	124.	11.30	11.00	11.50	11.27
29.	14.20	13.80	14.60	14.20	77.	16.40	16.50	16.70	16.53	125.	13.80	13.40	14.10	13.77
30.	13.60	13.70	13.90	13.73	78.	16.50	16.80	16.90	16.73	126.	12.80	12.90	13.30	13.00
31.	16.50	17.00	16.50	16.67	79.	11.40	11.20	11.70	11.43	127.	15.50	15.40	16.00	15.63
32.	12.20	12.40	12.70	12.43	80.	13.50	13.90	13.90	13.77	128.	13.50	13.20	14.00	13.57
33.	12.50	12.20	12.60	12.43	81.	16.80	17.20	16.90	16.97	129.	14.50	14.90	14.90	14.77
34.	15.60	16.00	15.70	15.77	82.	11.90	11.50	11.90	11.77	130.	16.80	16.50	16.80	16.70
35.	16.40	16.80	16.60	16.60	83.	15.40	15.50	15.80	15.57	131.	11.10	11.50	11.50	11.37
36.	11.00	10.90	11.20	11.03	84.	13.50	13.80	13.80	13.70	132.	16.00	16.30	16.10	16.13
37.	12.30	12.80	12.30	12.47	85.	14.30	14.70	14.70	14.57	133.	11.50	11.40	11.60	11.50
38.	11.00	10.60	11.20	10.93	86.	16.80	16.90	17.20	16.97	134.	10.80	10.70	10.90	10.80
39.	13.40	13.70	13.60	13.57	87.	16.40	16.40	16.60	16.47	135.	10.90	10.90	11.10	10.97
40.	13.10	13.50	13.40	13.33	88.	16.30	15.80	16.30	16.13	136.	16.60	16.40	17.10	16.70
41.	12.40	12.70	12.60	12.57	89.	11.90	11.90	12.30	12.03	137.	13.40	13.40	13.60	13.47
42.	13.80	14.00	14.10	13.97	90.	12.30	11.90	12.50	12.23	138.	12.80	12.70	13.20	12.90
43.	12.50	12.90	12.80	12.73	91.	10.90	11.00	11.10	11.00	139.	10.90	11.30	11.30	11.17
44.	13.90	14.40	14.40	14.23	92.	15.60	15.80	15.90	15.77	140.	15.80	16.10	16.20	16.03
45.	11.40	11.40	11.90	11.57	93.	16.50	16.40	16.70	16.53	141.	12.50	12.60	13.00	12.70
46.	15.00	14.60	15.30	14.97	94.	11.80	12.20	11.90	11.97	142.	16.80	17.20	16.90	16.97
47.	13.80	13.60	13.90	13.77	95.	16.80	17.10	17.10	17.00	143.	10.90	10.60	11.10	10.87
48.	15.30	15.50	15.40	15.40	96.	15.00	14.70	15.40	15.03	144.	13.80	13.60	14.00	13.80

RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
145	11.60	11.20	11.80	11.53	200.	10.90	11.00	11.10	11.00	255.	15.20	14.80	15.60	15.20
146.	13.10	13.00	13.40	13.17	201.	14.20	14.00	14.30	14.17	256.	17.00	17.10	17.00	17.03
147.	16.70	16.40	16.90	16.67	202.	16.70	16.80	17.10	16.87	257.	12.30	11.90	12.60	12.27
148.	15.70	16.10	15.80	15.87	203.	13.10	13.40	13.20	13.23	258.	13.70	13.90	14.00	13.87
149.	14.40	14.50	14.50	14.47	204.	15.60	15.30	15.60	15.50	259.	17.00	17.30	17.10	17.13
150.	15.20	15.60	15.20	15.33	205.	16.20	16.40	16.50	16.37	260.	12.30	12.50	12.60	12.47
151.	13.70	14.10	14.10	13.97	206.	11.80	11.60	12.30	11.90	261.	11.90	12.30	12.20	12.13
152.	13.40	13.90	13.40	13.57	207.	11.20	10.90	11.30	11.13	262.	16.60	16.90	17.10	16.87
153.	11.80	11.60	12.00	11.80	208.	13.50	13.10	13.70	13.43	263.	12.10	11.90	12.30	12.10
154.	15.20	15.50	15.20	15.30	209.	15.00	15.20	15.20	15.13	264.	14.50	15.00	14.80	14.77
155.	15.10	15.20	15.10	15.13	210.	12.50	12.50	12.60	12.53	265.	12.40	12.50	12.50	12.47
156.	12.60	12.40	13.00	12.67	211.	14.40	14.60	14.70	14.57	266.	14.90	14.60	14.90	14.80
157.	12.90	12.80	13.10	12.93	212.	12.30	12.30	12.70	12.43	267.	11.40	10.90	11.40	11.23
158.	14.30	14.00	14.60	14.30	213.	13.00	13.20	13.40	13.20	268.	16.60	16.60	16.60	16.60
159.	13.60	13.40	13.90	13.63	214.	17.00	16.50	17.10	16.87	269.	16.70	17.20	17.00	16.97
160.	11.40	11.10	11.70	11.40	215.	16.70	16.70	17.10	16.83	270.	15.50	15.70	15.60	15.60
161.	15.90	16.10	16.30	16.10	216.	14.00	13.60	14.10	13.90	271.	14.00	14.30	14.30	14.20
162.	11.50	11.90	11.70	11.70	217.	14.10	14.10	14.40	14.20	272.	14.20	14.30	14.20	14.23
163.	14.80	14.60	15.20	14.87	218.	15.90	15.70	16.30	15.97	273.	15.90	16.10	16.30	16.10
164.	11.60	11.20	11.60	11.47	219.	11.10	10.70	11.10	10.97	274.	11.70	12.20	11.90	11.93
165.	11.00	10.70	11.10	10.93	220.	11.20	11.60	11.30	11.37	275.	16.00	15.50	16.40	15.97
166.	12.80	12.60	13.20	12.87	221.	11.00	11.20	11.20	11.13	276.	11.00	11.10	11.30	11.13
167.	16.10	16.50	16.10	16.23	222.	16.60	16.20	16.80	16.53	277.	11.60	11.30	11.90	11.60
168.	13.10	12.80	13.50	13.13	223.	14.80	14.80	15.10	14.90	278.	11.30	11.30	11.30	11.30
169.	16.50	16.00	17.00	16.50	224.	15.20	15.10	15.60	15.30	279.	14.50	14.10	14.60	14.40
170.	16.70	16.70	17.20	16.87	225.	11.50	11.50	11.50	11.50	280.	13.30	13.70	13.40	13.47
171.	12.60	12.60	12.70	12.63	226.	13.70	14.10	14.10	13.97	281.	14.30	14.30	14.40	14.33
172.	16.10	15.70	16.30	16.03	227.	16.00	15.70	16.00	15.90	282.	15.70	15.90	15.80	15.80
173.	16.40	16.10	16.40	16.30	228.	11.80	11.80	12.00	11.87	283.	12.90	12.80	13.10	12.93
174.	14.50	14.60	14.80	14.63	229.	11.00	10.70	11.30	11.00	284.	12.90	12.60	13.10	12.87
175.	16.30	16.40	16.70	16.47	230.	16.20	15.80	16.60	16.20	285.	12.40	12.00	12.60	12.33
176.	11.70	11.40	11.70	11.60	231.	14.90	14.80	15.20	14.97	286.	13.90	13.60	14.10	13.87
177.	12.20	11.80	12.30	12.10	232.	11.10	10.90	11.50	11.17	287.	15.70	15.20	16.00	15.63
178.	15.60	15.30	15.70	15.53	233.	15.90	15.60	15.90	15.80	288.	15.80	15.70	16.00	15.83
179.	15.10	15.00	15.20	15.10	234.	15.30	15.00	15.80	15.37	289.	11.30	10.80	11.30	11.13
180.	12.60	13.00	12.70	12.77	235.	11.10	11.50	11.50	11.37	290.	14.50	14.30	14.50	14.43
181.	13.00	13.10	13.40	13.17	236.	12.40	12.10	12.50	12.33	291.	12.30	11.90	12.50	12.23
182.	13.60	13.30	13.70	13.53	237.	12.10	12.50	12.40	12.33	292.	16.20	16.00	16.50	16.23
183.	14.40	14.80	14.70	14.63	238.	14.40	14.90	14.60	14.63	293.	11.40	11.20	11.90	11.50
184.	15.90	15.90	16.20	16.00	239.	16.10	16.00	16.30	16.13	294.	11.10	10.70	11.10	10.97
185.	16.40	16.60	16.90	16.63	240.	14.00	13.50	14.30	13.93	295.	12.10	11.70	12.20	12.00
186.	15.30	15.50	15.70	15.50	241.	11.00	10.70	11.40	11.03	296.	16.00	15.90	16.10	16.00
187.	10.90	10.90	11.40	11.07	242.	12.40	12.30	12.70	12.47	297.	13.40	13.10	13.50	13.33
188.	11.20	11.40	11.40	11.33	243.	13.00	13.40	13.50	13.30	298.	11.90	12.30	12.30	12.17
189.	13.90	14.00	14.40	14.10	244.	12.40	12.80	12.60	12.60	299.	12.60	13.10	13.10	12.93
190.	15.80	15.30	16.20	15.77	245.	14.50	14.40	14.80	14.57	300.	13.80	14.10	13.90	13.93
191.	12.80	12.90	13.00	12.90	246.	12.20	12.30	12.50	12.33	301.	11.50	11.90	11.90	11.77
192.	15.70	16.20	15.80	15.90	247.	16.20	16.50	16.30	16.33	302.	14.50	14.10	14.70	14.43
193.	11.70	11.90	11.90	11.83	248.	14.90	15.10	15.30	15.10	303.	12.90	13.10	12.90	12.97
194.	11.70	11.20	12.00	11.63	249.	14.40	14.80	14.90	14.70	304.	14.90	14.70	15.20	14.93
195.	16.90	16.80	17.20	16.97	250.	13.10	12.80	13.20	13.03	305.	14.40	14.70	14.70	14.60
196.	10.90	11.00	11.30	11.07	251.	14.30	14.10	14.40	14.27	306.	12.90	12.50	13.30	12.90
197.	15.00	15.40	15.20	15.20	252.	16.60	16.80	16.70	16.70	307.	15.80	15.40	16.10	15.77
198.	16.80	16.40	16.90	16.70	253.	16.60	16.10	16.70	16.47	308.	12.10	12.60	12.30	12.33
199.	12.70	12.80	13.20	12.90	254.	16.20	16.10	16.30	16.20	309.	16.80	16.80	16.80	16.80

RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
310	13. 50	13. 70	13. 90	13.70	365	16. 20	16. 30	16. 60	16.37	420	12. 60	12. 40	12 80	12.60
311.	13.60	13.10	14.10	13.60	366.	16.10	16.10	16.20	16.13	421.	13.50	14.00	13.60	13.70
312.	16.50	16.50	16.70	16.57	367.	14.40	14.80	14.50	14.57	422.	12.10	12.50	12.50	12.37
313.	10.90	10.80	11.30	11.00	368.	16.00	16.30	16.50	16.27	423.	13.90	14.20	14.20	14.10
314.	13.90	13.50	14.30	13.90	369.	11.50	11.60	11.70	11.60	424.	15.70	16.00	15.80	15.83
315.	11.80	12.00	12.30	12.03	370.	12.50	12.80	12.60	12.63	425.	15.40	15.30	15 50	15.40
316.	16.60	16.50	16.70	16.60	371.	12.50	12.40	12.80	12.57	426.	11.80	11.60	12.20	11.87
317.	11.00	11.30	11.30	11.20	372.	13.20	12.90	13.30	13.13	427.	12.60	12.80	12.90	12.77
318.	15.50	15.40	15.60	15.50	373.	15.30	15.00	15.30	15.20	428.	13.20	13.20	13.40	13.27
319.	11.90	12.10	12.10	12.03	374.	12.70	12.30	12.90	12.63	429.	15.30	15.50	15.30	15.37
320.	12.50	12.20	12.70	12.47	375.	14.30	14.60	14.40	14.43	430.	14.80	14.80	15.20	14.93
321.	11.70	11.70	12.10	11.83	376.	16.20	16.30	16.40	16.30	431.	16.00	15.70	16.50	16.07
322.	12.10	12.40	12.40	12.30	377.	13.80	13.80	14.00	13.87	432.	12.50	12.70	12.70	12.63
323.	13.00	13.50	13.10	13.20	378.	13.20	13.50	13.60	13.43	433.	16.40	16.50	16.80	16.57
324.	15.40	15.50	15.90	15.60	379.	11.30	10.80	11.50	11.20	434.	12.60	13.10	12.70	12.80
325.	16.20	16.10	16.50	16.27	380.	12.60	12.30	13.10	12.73	435.	10.90	11.10	11.00	11.00
326.	11.60	11.50	11.60	11.57	381.	11.00	11.30	11.30	11.20	436.	11.00	11.40	11.20	11.20
327.	16.80	16.60	16.90	16.77	382.	15.30	15.20	15.80	15.43	437.	11.40	11.40	11.50	11.43
328.	16.50	16.50	16.90	16.63	383.	16.70	16 90	17.00	16.87	438.	11.50	11.60	11.60	11.57
329.	15.80	15.30	15.90	15.67	384.	16.40	16.00	16.40	16.27	439.	13.80	13.80	13.90	13.83
330.	15.00	15.00	15.40	15.13	385.	11.40	11.70	11.60	11.57	440.	15.50	15.50	15.60	15.53
331.	13.50	13.90	13.70	13.70	386.	14.60	14.40	14.60	14.53	441.	12.10	12.40	12.30	12.27
332.	14.10	14.30	14.60	14.33	387.	12.70	12.70	12.80	12.73	442.	12.50	12.70	12.70	12.63
333.	15.40	15.30	15.60	15.43	388.	15.80	15.30	16.20	15.77	443.	14.20	14.40	14 30	14.30
334.	16.90	16.50	17.10	16.83	389.	17.00	17.00	17.00	17.00	444.	12.90	13.20	13.20	13.10
335.	14.50	14.00	14.70	14.40	390.	15.80	15.60	16.20	15.87	445.	12.00	12.00	12.10	12.03
336.	11.10	11.10	11.50	11.23	391.	15.90	16.00	16.10	16.00	446.	11.00	10.70	11.40	11.03
337.	16.00	16.20	16.40	16.20	392.	12.30	11.90	12.50	12.23	447.	12.80	12.50	12.90	12.73
338.	12.30	12.70	12.40	12.47	393.	13.50	13.10	14.00	13.53	448.	11.50	11.20	11.70	11.47
339.	10.90	11.10	11.00	11.00	394.	12.40	12.70	12.50	12.53	449.	13.00	12.60	13.20	12.93
340.	13.50	13.30	13.90	13.57	395.	14.80	14.80	15.20	14.93	450.	16.50	16.60	16.80	16.63
341.	11.80	12.20	11.80	11.93	396.	16.00	15.80	16.00	15.93	451.	11.40	11.30	11.90	11.53
342.	12.10	12.20	12.20	12.17	397.	14.00	13.70	14.20	13.97	452.	14.80	14.50	15.20	14.83
343.	15.00	14.60	15.20	14.93	398.	11.50	11.10	11.90	11.50	453.	15.90	16.30	16.40	16.20
344.	13.00	13.10	13.10	13.07	399.	14.30	13.90	14.70	14.30	454.	12.10	12.50	12.30	12.30
345.	13.80	14.20	14.10	14.03	400.	12.00	11.80	12.50	12.10	455.	11.00	10.50	11.30	10.93
346.	16.40	16.70	16.60	16.57	401.	16.80	16.60	17.10	16.83	456.	15.70	15.70	16.10	15.83
347.	15.90	16.30	16.20	16.13	402.	15.90	15.90	16.20	16.00	457.	13.30	13.50	13.50	13.43
348.	13.10	13.30	13.20	13.20	403.	12.90	13.00	13.40	13.10	458.	14.90	14.70	15.20	14.93
349.	12.50	12.90	12.90	12.77	404.	15.10	15.00	15.20	15.10	459.	16.90	16.70	17.00	16.87
350.	14.10	13.90	14.40	14.13	405.	15.10	15.30	15.30	15.23	460.	11.30	11.00	11.60	11.30
351.	11.60	11.40	12.10	11.70	406.	14.80	15.20	14.90	14.97	461.	14.00	13.80	14.20	14.00
352.	14.50	14.70	14.50	14.57	407.	13.30	13.70	13.60	13.53	462.	13.10	12.90	13.50	13.17
353.	16.80	17.10	16.90	16.93	408.	14.60	14.70	14.70	14.67	463.	15.00	15.10	15.00	15.03
354.	15.50	15.70	15.60	15.60	409.	14.20	14.50	14.30	14.33	464.	12.30	12.70	12.60	12.53
355.	11.50	11.30	11.90	11.57	410.	13.10	13.50	13.40	13.33	465.	13.60	13.90	13.90	13.80
356.	13.90	13.80	14.30	14.00	411.	15.30	15.70	15.60	15.53	466.	11.40	11.50	11.70	11.53
357.	13.80	13.80	14.00	13.87	412.	13.40	13.90	13.80	13.70	467.	11.20	11.40	11.40	11.33
358.	11.20	11.40	11.40	11.33	413.	12.80	13.10	13.30	13.07	468.	11.20	10.80	11.50	11.17
359.	15.40	15.10	15.40	15.30	414.	12.40	12.50	12.50	12.47	469.	16.90	17.20	17.20	17.10
360.	10.80	11.10	10.90	10.93	415.	16.50	17.00	16.90	16.80	470.	14.70	14.60	14.90	14.73
361.	16.90	16.40	17.30	16.87	416.	13.00	12.80	13.40	13.07	471.	11.20	10.80	11.40	11.13
362.	14.40	14.90	14.70	14.67	417.	11.10	10.60	11.40	11.03	472.	13.50	13.00	13.70	13.40
363.	12.60	12.80	13.00	12.80	418.	12.00	11.70	12.30	12.00	473.	10.90	10.60	11.40	10.97
364.	15.60	15.20	16.00	15.60	419.	15.20	15.40	15.50	15.37	474.	13.80	13.60	13.80	13.73

RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
475	12. 80	13.00	13.30	13.03	530.	13.00	13.50	13.30	13.27	585.	12.90	12.80	13.20	12.97
476.	15.30	15.70	15.70	15.57	531.	13.60	13.60	14.00	13.73	586.	16.30	16.80	16.50	16.53
477.	14.90	15.10	15.30	15.10	532.	15.60	15.70	15.70	15.67	587.	11.00	10.90	11.20	11.03
478.	16.60	16.90	17.00	16.83	533.	12.50	12.10	12.70	12.43	588.	13.40	13.80	13.80	13.67
479.	13.40	13.50	13.70	13.53	534.	13.30	13.20	13.70	13.40	589.	11.90	11.80	12.30	12.00
480.	12.80	13.00	13.20	13.00	535.	16.40	16.80	16.50	16.57	590.	12.90	13.20	13.20	13.10
481.	14.20	13.90	14.50	14.20	536.	11.10	10.70	11.40	11.07	591.	12.60	12.40	13.00	12.67
482.	11.90	11.40	12.10	11.80	537.	11.50	11.10	11.80	11.47	592.	11.10	10.70	11.20	11.00
483.	12.50	12.40	12.60	12.50	538.	13.70	13.40	13.70	13.60	593.	14.10	13.60	14.30	14.00
484.	13.90	14.10	14.20	14.07	539.	16.10	16.50	16.40	16.33	594.	16.00	16.40	16.10	16.17
485.	12.10	11.90	12.40	12.13	540.	14.10	14.00	14.30	14.13	595.	15.40	15.80	15.50	15.57
486.	15.20	15.50	15.60	15.43	541.	14.20	14.30	14.60	14.37	596.	11.30	11.40	11.80	11.50
487.	15.40	15.60	15.40	15.47	542.	15.90	16.20	16.00	16.03	597.	15.90	15.90	16.20	16.00
488.	13.50	13.80	13.70	13.67	543.	16.20	15.70	16.30	16.07	598.	12.20	12.40	12.70	12.43
489.	16.80	17.00	17.00	16.93	544.	15.50	15.40	15.60	15.50	599.	11.70	12.10	11.90	11.90
490.	11.90	11.80	12.30	12.00	545.	15.20	15.50	15.60	15.43	600.	15.30	15.30	15.50	15.37
491.	14.10	13.80	14.40	14.10	546.	16.60	16.20	16.60	16.47	601.	11.60	11.60	11.90	11.70
492.	14.40	14.10	14.70	14.40	547.	11.10	11.10	11.50	11.23	602.	14.40	14.80	14.80	14.67
493.	16.50	16.70	16.90	16.70	548.	13.10	12.90	13.50	13.17	603.	14.30	14.20	14.30	14.27
494.	12.10	12.00	12.20	12.10	549.	11.00	11.20	11.50	11.23	604.	11.50	11.70	11.70	11.63
495.	13.00	13.10	13.30	13.13	550.	15.90	16.30	16.00	16.07	605.	12.10	12.60	12.10	12.27
496.	12.40	12.30	12.80	12.50	551.	15.20	15.00	15.50	15.23	606.	11.90	12.10	12.20	12.07
497.	11.80	11.60	12.10	11.83	552.	12.00	12.40	12.10	12.17	607.	13.90	13.80	14.20	13.97
498.	14.90	14.90	15.40	15.07	553.	16.40	16.40	16.70	16.50	608.	16.40	16.70	16.60	16.57
499.	12.60	12.90	12.90	12.80	554.	16.30	15.90	16.60	16.27	609.	15.90	15.80	16.20	15.97
500.	13.40	13.70	13.90	13.67	555.	12.50	12.80	12.60	12.63	610.	15.20	15.30	15.50	15.33
501.	13.10	13.50	13.20	13.27	556.	14.50	14.20	14.70	14.47	611.	12.50	12.50	12.80	12.60
502.	11.30	10.80	11.80	11.30	557.	15.30	15.40	15.40	15.37	612.	11.80	12.20	11.80	11.93
503.	13.60	13.80	14.10	13.83	558.	15.60	15.40	15.60	15.53	613.	12.00	11.90	12.20	12.03
504.	15.80	16.30	15.90	16.00	559.	13.20	12.80	13.40	13.13	614.	15.70	15.40	16.00	15.70
505.	13.70	14.10	14.10	13.97	560.	17.00	16.90	17.40	17.10	615.	14.90	14.70	15.20	14.93
506.	13.40	12.90	13.40	13.23	561.	11.90	12.20	12.30	12.13	616.	12.90	13.00	13.20	13.03
507.	15.90	15.80	16.00	15.90	562.	14.60	14.60	15.00	14.73	617.	15.70	15.80	15.90	15.80
508.	12.30	12.60	12.50	12.47	563.	12.90	13.10	13.40	13.13	618.	14.10	14.00	14.30	14.13
509.	15.60	15.60	16.00	15.73	564.	15.60	15.20	15.70	15.50	619.	15.50	15.40	15.80	15.57
510.	16.40	16.70	16.40	16.50	565.	15.50	15.60	15.50	15.53	620.	15.00	14.70	15.30	15.00
511.	13.90	13.80	14.00	13.90	566.	13.80	14.20	14.00	14.00	621.	13.10	12.70	13.30	13.03
512.	11.80	12.10	12.20	12.03	567.	15.10	15.00	15.10	15.07	622.	14.60	14.50	14.80	14.63
513.	11.80	12.10	11.80	11.90	568.	12.70	12.70	12.80	12.73	623.	11.90	12.00	12.20	12.03
514.	13.10	13.40	13.20	13.23	569.	13.90	13.90	14.30	14.03	624.	15.50	15.30	15.70	15.50
515.	16.90	16.50	17.20	16.87	570.	11.10	11.60	11.50	11.40	625.	11.90	12.10	12.20	12.07
516.	14.00	14.00	14.20	14.07	571.	11.80	12.10	12.10	12.00	626.	13.40	13.70	13.80	13.63
517.	14.50	14.30	14.80	14.53	572.	12.50	12.30	12.70	12.50	627.	13.40	13.20	13.70	13.43
518.	14.60	14.80	15.00	14.80	573.	10.90	10.90	11.20	11.00	628.	13.00	13.10	13.20	13.10
519.	16.10	16.10	16.40	16.20	574.	14.60	14.50	15.10	14.73	629.	14.10	14.20	14.20	14.17
520.	16.00	16.40	16.50	16.30	575.	15.60	15.70	15.60	15.63	630.	14.20	14.20	14.40	14.27
521.	16.70	16.60	17.10	16.80	576.	12.60	13.00	12.70	12.77	631.	13.90	14.20	14.10	14.07
522.	11.50	11.20	11.70	11.47	577.	15.50	15.20	16.00	15.57	632.	13.70	14.00	14.20	13.97
523.	15.10	15.30	15.10	15.17	578.	12.30	12.40	12.80	12.50	633.	14.10	13.70	14.60	14.13
524.	14.10	14.30	14.40	14.27	579.	12.10	12.20	12.20	12.17	634.	13.50	13.30	13.60	13.47
525.	16.90	17.10	17.00	17.00	580.	15.10	15.50	15.10	15.23	635.	15.90	16.10	16.30	16.10
526.	11.00	11.20	11.10	11.10	581.	14.30	14.50	14.40	14.40	636.	15.10	15.10	15.40	15.20
527.	11.80	12.20	11.90	11.97	582.	12.30	12.70	12.70	12.57	637.	11.80	11.90	11.80	11.83
528.	13.60	13.50	14.00	13.70	583.	14.20	13.70	14.50	14.13	638.	13.30	13.80	13.60	13.57
529.	14.30	14.10	14.70	14.37	584.	14.80	15.00	14.80	14.87	639.	13.00	13.10	13.20	13.10

RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
640.	15.50	15.70	15.60	15.60	695.	11.40	11.70	11.70	11.60	750.	11.30	11.30	11.80	11.47
641.	13.40	13.10	13.90	13.47	696.	14.40	14.80	14.50	14.57	751.	11.20	11.40	11.20	11.27
642.	15.50	15.10	15.70	15.43	697.	16.10	16.20	16.20	16.17	752.	13.10	12.80	13.20	13.03
643.	11.00	10.80	11.10	10.97	698.	16.00	15.60	16.40	16.00	753.	11.60	11.80	11.80	11.73
644.	13.30	13.70	13.60	13.53	699.	11.00	10.70	11.10	10.93	754.	14.30	14.80	14.70	14.60
645.	16.80	16.90	16.80	16.83	700.	15.40	15.80	15.70	15.63	755.	15.00	15.20	15.30	15.17
646.	13.10	12.70	13.10	12.97	701.	13.70	13.30	13.80	13.60	756.	12.10	12.10	12.50	12.23
647.	12.80	13.10	13.00	12.97	702.	14.00	13.50	14.30	13.93	757.	12.10	12.50	12.20	12.27
648.	13.40	13.10	13.70	13.40	703.	14.00	14.30	14.30	14.20	758.	15.20	15.30	15.50	15.33
649.	15.80	15.70	16.20	15.90	704.	15.90	15.40	16.30	15.87	759.	15.30	15.70	15.60	15.53
650.	12.20	12.00	12.30	12.17	705.	13.20	13.30	13.40	13.30	760.	16.10	16.20	16.50	16.27
651.	12.20	12.60	12.60	12.47	706.	12.00	12.30	12.30	12.20	761.	15.10	15.20	15.50	15.27
652.	10.80	11.00	10.80	10.87	707.	15.00	15.40	15.40	15.27	762.	13.70	14.20	14.10	14.00
653.	12.90	13.40	13.10	13.13	708.	16.40	16.20	16.60	16.40	763.	11.10	11.50	11.10	11.23
654.	14.00	13.80	14.20	14.00	709.	11.20	11.50	11.40	11.37	764.	15.00	14.60	15.20	14.93
655.	12.80	12.40	13.10	12.77	710.	12.20	12.60	12.20	12.33	765.	12.00	11.50	12.10	11.87
656.	12.60	12.20	13.00	12.60	711.	13.70	13.90	14.10	13.90	766.	12.10	11.90	12.50	12.17
657.	14.60	15.00	15.10	14.90	712.	13.60	14.10	14.00	13.90	767.	13.90	13.60	14.30	13.93
658.	15.70	15.70	16.10	15.83	713.	14.50	14.20	15.00	14.57	768.	15.20	15.00	15.40	15.20
659.	11.90	12.30	12.00	12.07	714.	13.10	13.10	13.20	13.13	769.	16.30	16.60	16.70	16.53
660.	12.40	12.20	12.60	12.40	715.	14.30	13.80	14.40	14.17	770.	15.70	15.40	16.10	15.73
661.	16.30	16.70	16.60	16.53	716.	14.10	13.70	14.50	14.10	771.	13.50	13.60	13.60	13.57
662.	13.00	13.00	13.40	13.13	717.	15.30	15.30	15.50	15.37	772.	13.60	13.50	13.70	13.60
663.	11.10	10.80	11.30	11.07	718.	16.10	16.20	16.30	16.20	773.	11.40	11.30	11.80	11.50
664.	15.20	14.70	15.50	15.13	719.	13.80	13.40	13.90	13.70	774.	11.20	11.00	11.30	11.17
665.	12.50	12.50	12.50	12.50	720.	13.60	14.00	13.90	13.83	775.	12.20	12.30	12.30	12.27
666.	11.20	11.10	11.60	11.30	721.	11.20	10.90	11.50	11.20	776.	16.90	17.00	17.20	17.03
667.	15.20	15.30	15.40	15.30	722.	13.60	14.10	13.90	13.87	777.	16.90	16.50	16.90	16.77
668.	15.10	15.30	15.40	15.27	723.	11.00	10.90	11.30	11.07	778.	14.40	14.30	14.50	14.40
669.	16.40	16.20	16.40	16.33	724.	14.00	14.00	14.40	14.13	779.	12.40	12.60	12.40	12.47
670.	12.10	11.80	12.60	12.17	725.	15.10	15.00	15.50	15.20	780.	12.50	12.90	12.50	12.63
671.	14.50	14.40	14.70	14.53	726.	10.90	10.80	11.30	11.00	781.	14.40	14.10	14.80	14.43
672.	10.90	11.20	11.30	11.13	727.	16.30	16.20	16.70	16.40	782.	14.40	14.80	14.50	14.57
673.	11.40	11.70	11.50	11.53	728.	12.30	12.70	12.40	12.47	783.	10.90	11.30	10.90	11.03
674.	15.70	15.50	15.80	15.67	729.	15.90	15.60	16.30	15.93	784.	15.40	15.50	15.70	15.53
675.	12.30	12.60	12.70	12.53	730.	11.80	11.90	12.30	12.00	785.	11.60	11.70	11.90	11.73
676.	11.50	11.10	11.80	11.47	731.	14.20	14.40	14.60	14.40	786.	11.40	11.00	11.80	11.40
677.	16.40	16.20	16.60	16.40	732.	14.10	13.60	14.10	13.93	787.	14.00	13.90	14.10	14.00
678.	16.20	16.40	16.30	16.30	733.	16.30	15.80	16.70	16.27	788.	11.70	11.70	12.20	11.87
679.	16.00	15.60	16.10	15.90	734.	12.10	12.20	12.50	12.27	789.	13.90	13.70	14.10	13.90
680.	11.30	11.60	11.40	11.43	735.	13.30	13.40	13.70	13.47	790.	13.80	14.10	13.90	13.93
681.	16.30	16.80	16.70	16.60	736.	12.90	13.20	13.10	13.07	791.	16.30	16.50	16.60	16.47
682.	13.10	13.60	13.40	13.37	737.	15.80	15.80	15.90	15.83	792.	14.40	14.10	14.60	14.37
683.	12.30	12.00	12.80	12.37	738.	13.20	13.30	13.40	13.30	793.	10.80	10.70	10.90	10.80
684.	11.30	11.10	11.60	11.33	739.	11.80	11.30	12.20	11.77	794.	11.80	11.90	12.10	11.93
685.	11.50	11.90	12.00	11.80	740.	13.70	13.60	13.80	13.70	795.	12.70	12.30	13.20	12.73
686.	16.80	17.10	17.10	17.00	741.	13.60	13.50	14.00	13.70	796.	16.20	15.80	16.20	16.07
687.	16.90	17.20	17.10	17.07	742.	12.70	13.00	12.80	12.83	797.	13.30	13.00	13.70	13.33
688.	15.80	15.50	16.10	15.80	743.	13.90	13.90	14.30	14.03	798.	13.40	13.20	13.70	13.43
689.	13.30	13.80	13.50	13.53	744.	15.20	15.50	15.50	15.40	799.	11.70	12.10	11.90	11.90
690.	12.80	12.70	13.00	12.83	745.	13.60	14.00	13.60	13.73	800.	11.50	11.80	11.90	11.73
691.	15.70	15.90	16.00	15.87	746.	14.80	14.70	15.00	14.83	801.	11.90	12.00	12.10	12.00
692.	13.40	13.30	13.80	13.50	747.	16.80	17.10	17.10	17.00	802.	15.60	15.60	15.70	15.63
693.	16.50	16.80	16.90	16.73	748.	11.10	11.40	11.50	11.33	803.	12.60	12.50	13.10	12.73
694.	14.10	13.80	14.50	14.13	749.	12.10	11.70	12.50	12.10	804.	13.90	13.40	14.10	13.80

RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
805.	11.10	10.90	11.20	11.07	860.	16.90	16.60	17.20	16.90	915.	13.70	13.50	14.10	13.77
806.	13.10	12.60	13.40	13.03	861.	15.20	15.20	15.20	15.20	916.	13.60	13.20	14.00	13.60
807.	16.40	16.50	16.50	16.47	862.	11.30	11.50	11.70	11.50	917.	11.70	12.00	11.80	11.83
808.	13.50	14.00	14.00	13.83	863.	11.30	11.70	11.60	11.53	918.	15.90	16.20	16.30	16.13
809.	15.20	15.70	15.50	15.47	864.	14.60	14.50	15.00	14.70	919.	13.30	13.10	13.70	13.37
810.	14.60	14.50	14.60	14.57	865.	13.80	14.20	14.00	14.00	920.	15.10	14.70	15.40	15.07
811.	12.00	11.50	12.40	11.97	866.	12.00	11.70	12.50	12.07	921.	12.80	12.70	13.10	12.87
812.	16.00	16.30	16.20	16.17	867.	16.30	16.80	16.40	16.50	922.	15.50	15.00	15.80	15.43
813.	16.40	16.00	16.60	16.33	868.	13.60	13.10	13.90	13.53	923.	14.80	15.30	14.90	15.00
814.	12.20	12.60	12.50	12.43	869.	16.80	17.10	17.20	17.03	924.	11.40	11.50	11.60	11.50
815.	14.80	15.20	15.20	15.07	870.	12.50	12.40	12.60	12.50	925.	11.10	11.20	11.60	11.30
816.	15.20	14.80	15.30	15.10	871.	12.50	12.20	12.60	12.43	926.	13.50	13.20	13.70	13.47
817.	14.50	14.90	14.90	14.77	872.	14.20	14.60	14.50	14.43	927.	13.80	14.10	13.80	13.90
818.	13.40	13.60	13.80	13.60	873.	16.60	17.00	16.80	16.80	928.	11.20	11.30	11.60	11.37
819.	12.90	13.40	13.30	13.20	874.	13.90	14.40	14.30	14.20	929.	16.80	16.80	17.30	16.97
820.	16.90	16.80	17.00	16.90	875.	11.90	11.50	12.20	11.87	930.	16.40	16.50	16.80	16.57
821.	14.60	15.00	14.70	14.77	876.	15.20	15.10	15.30	15.20	931.	12.10	12.10	12.50	12.23
822.	12.60	12.90	12.90	12.80	877.	13.50	13.50	13.90	13.63	932.	14.30	14.00	14.50	14.27
823.	14.90	14.90	15.30	15.03	878.	14.70	14.70	15.00	14.80	933.	13.60	13.60	14.00	13.73
824.	14.40	14.70	14.60	14.57	879.	16.90	17.00	17.00	16.97	934.	12.60	12.80	13.10	12.83
825.	12.60	12.30	12.80	12.57	880.	11.30	11.60	11.60	11.50	935.	16.30	16.10	16.60	16.33
826.	14.60	14.40	14.90	14.63	881.	11.10	11.50	11.60	11.40	936.	12.50	12.60	12.70	12.60
827.	11.60	11.80	11.80	11.73	882.	11.40	11.50	11.60	11.50	937.	13.10	13.00	13.50	13.20
828.	15.50	15.80	15.60	15.63	883.	11.00	10.60	11.00	10.87	938.	14.50	14.50	14.90	14.63
829.	14.30	14.40	14.60	14.43	884.	16.80	16.60	17.30	16.90	939.	11.70	11.60	11.90	11.73
830.	15.40	15.80	15.70	15.63	885.	13.30	13.50	13.80	13.53	940.	16.40	16.80	16.90	16.70
831.	14.30	14.70	14.80	14.60	886.	14.20	14.40	14.60	14.40	941.	11.30	10.80	11.50	11.20
832.	15.10	15.10	15.10	15.10	887.	11.60	12.10	11.90	11.87	942.	14.20	14.70	14.50	14.47
833.	12.10	12.60	12.50	12.40	888.	16.80	16.40	17.20	16.80	943.	13.00	12.70	13.40	13.03
834.	15.70	15.70	15.90	15.77	889.	16.50	16.40	16.90	16.60	944.	15.30	15.30	15.30	15.30
835.	14.00	13.70	14.40	14.03	890.	14.00	13.70	14.40	14.03	945.	15.40	15.70	15.90	15.67
836.	12.60	12.10	12.80	12.50	891.	14.00	14.40	14.20	14.20	946.	16.20	16.50	16.50	16.40
837.	12.80	12.90	13.30	13.00	892.	12.10	12.30	12.30	12.23	947.	10.90	11.20	11.30	11.13
838.	11.60	11.40	11.90	11.63	893.	16.10	16.30	16.40	16.27	948.	13.60	13.40	13.90	13.63
839.	15.90	15.50	16.40	15.93	894.	12.90	13.10	13.10	13.03	949.	15.90	15.90	16.20	16.00
840.	12.30	12.70	12.70	12.57	895.	16.80	16.70	17.10	16.87	950.	15.30	15.60	15.50	15.47
841.	12.00	12.40	12.20	12.20	896.	10.90	10.70	11.00	10.87	951.	13.30	13.60	13.70	13.53
842.	11.50	11.30	11.80	11.53	897.	14.30	14.00	14.50	14.27	952.	12.60	12.90	13.00	12.83
843.	14.40	13.90	14.70	14.33	898.	13.50	13.30	13.90	13.57	953.	15.90	16.10	16.10	16.03
844.	13.50	13.80	13.70	13.67	899.	12.00	11.60	12.40	12.00	954.	13.30	13.60	13.80	13.57
845.	11.90	11.40	12.40	11.90	900.	14.90	14.90	15.20	15.00	955.	13.70	13.50	14.00	13.73
846.	16.60	16.70	17.10	16.80	901.	10.80	10.50	11.00	10.77	956.	12.70	12.70	12.80	12.73
847.	12.10	12.50	12.10	12.23	902.	15.10	15.30	15.40	15.27	957.	12.80	12.80	13.20	12.93
848.	13.50	13.20	13.70	13.47	903.	14.10	14.00	14.20	14.10	958.	12.50	13.00	12.60	12.70
849.	11.20	11.50	11.70	11.47	904.	13.90	14.30	14.00	14.07	959.	16.50	16.90	16.60	16.67
850.	16.70	16.30	17.00	16.67	905.	13.80	13.80	14.00	13.87	960.	16.50	16.30	16.50	16.43
851.	16.50	16.60	16.90	16.67	906.	12.00	12.30	12.50	12.27	961.	12.30	12.60	12.50	12.47
852.	13.10	13.00	13.40	13.17	907.	15.60	15.40	16.00	15.67	962.	17.00	17.40	17.40	17.27
853.	14.30	14.70	14.50	14.50	908.	12.70	12.90	13.10	12.90	963.	15.30	15.20	15.40	15.30
854.	10.80	11.30	10.90	11.00	909.	15.30	15.40	15.50	15.40	964.	15.90	15.90	16.30	16.03
855.	12.70	12.90	12.90	12.83	910.	12.00	12.50	12.40	12.30	965.	13.10	13.60	13.20	13.30
856.	16.90	16.40	17.10	16.80	911.	12.50	12.20	12.80	12.50	966.	16.90	17.10	17.10	17.03
857.	11.40	11.70	11.50	11.53	912.	15.70	16.00	15.90	15.87	967.	14.60	14.10	14.60	14.43
858.	12.50	12.10	12.50	12.37	913.	11.50	11.90	11.60	11.67	968.	10.90	11.20	10.90	11.00
859.	12.40	12.30	12.70	12.47	914.	12.50	12.00	12.60	12.37	969.	11.50	11.20	12.00	11.57

RAW SCORES OF NEW AGILITY TEST OF 12 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
970	11.40	11.40	11.50	11.43	989.	15.00	14.90	15.40	15.10	1008.	16.30	16.50	16.60	16.47
971.	11.30	11.80	11.50	11.53	990.	15.50	15.70	15.90	15.70	1009.	16.60	16.60	16.60	16.60
972.	11.60	11.60	11.90	11.70	991.	14.40	14.60	14.60	14.53	1010.	10.80	10.50	11.00	10.77
973.	14.00	13.70	14.40	14.03	992.	15.30	15.40	15.50	15.40	1011.	14.00	14.30	14.20	14.17
974.	14.50	14.70	14.60	14.60	993.	16.30	16.70	16.70	16.57	1012.	14.80	14.70	15.20	14.90
975.	13.80	13.90	14.20	13.97	994.	11.60	11.60	11.70	11.63	1013.	11.60	12.10	11.70	11.80
976.	11.00	10.70	11.50	11.07	995.	13.90	14.30	14.00	14.07	1014.	11.30	11.60	11.70	11.53
977.	14.00	13.60	14.30	13.97	996.	11.30	11.70	11.80	11.60	1015.	15.20	15.40	15.30	15.30
978.	12.80	13.20	12.80	12.93	997.	15.50	15.50	15.70	15.57	1016.	15.80	15.60	16.20	15.87
979.	13.50	13.60	13.70	13.60	998.	15.00	15.30	15.50	15.27	1017.	12.30	12.10	12.60	12.33
980.	14.70	14.60	15.20	14.83	999.	16.90	16.90	17.40	17.07	1018.	14.20	14.40	14.60	14.40
981.	13.70	13.30	13.80	13.60	1000.	16.20	15.90	16.40	16.17	1019.	12.20	11.70	12.20	12.03
982.	11.90	12.40	12.30	12.20	1001.	12.40	12.00	12.50	12.30	1020.	12.50	12.40	13.00	12.63
983.	13.40	13.80	13.40	13.53	1002.	11.60	11.30	11.90	11.60	1021.	11.90	11.60	12.20	11.90
984.	16.70	16.40	16.80	16.63	1003.	13.00	13.30	13.40	13.23	1022.	15.70	15.50	15.90	15.70
985.	16.70	17.10	16.80	16.87	1004.	14.90	15.30	15.30	15.17	1023.	15.20	14.70	15.50	15.13
986.	16.20	16.20	16.40	16.27	1005.	11.20	11.60	11.50	11.43	1024.	14.90	14.60	15.40	14.97
987.	15.30	15.10	15.80	15.40	1006.	12.30	11.80	12.60	12.23	1025.	13.60	13.90	13.70	13.73
988.	13.70	13.80	13.80	13.77	1007.	16.80	17.00	17.20	17.00	1026.	15.20	14.90	15.70	15.27

APPENDIX - III

RAW SCORES OF NEW AGILITY TEST OF 13 YEAR OLD BOYS

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
1.	11.50	11.90	11.50	11.63	49.	15.40	15.60	15.70	15.57	97.	16.20	16.20	16.40	16.27
2.	11.10	11.20	11.50	11.27	50.	14.00	14.20	14.40	14.20	98.	12.30	11.90	12.40	12.20
3.	13.30	13.50	13.60	13.47	51.	14.80	14.90	15.20	14.97	99.	13.00	13.40	13.20	13.20
4.	14.00	13.70	14.10	13.93	52.	12.20	12.60	12.60	12.47	100.	13.40	13.50	13.70	13.53
5.	15.50	15.10	15.90	15.50	53.	12.10	12.20	12.20	12.17	101.	15.70	15.60	15.90	15.73
6.	10.60	10.50	10.80	10.63	54.	11.50	11.50	11.70	11.57	102.	11.20	11.20	11.50	11.30
7.	12.00	12.00	12.10	12.03	55.	15.80	15.40	16.30	15.83	103.	13.60	13.10	13.80	13.50
8.	12.00	12.00	12.40	12.13	56.	13.10	13.10	13.20	13.13	104.	13.90	13.50	14.00	13.80
9.	15.90	16.20	16.30	16.13	57.	15.80	16.20	15.80	15.93	105.	13.40	13.60	13.80	13.60
10.	11.90	11.90	12.10	11.97	58.	16.30	16.30	16.50	16.37	106.	14.30	14.20	14.60	14.37
11.	13.10	13.10	13.20	13.13	59.	11.20	11.50	11.40	11.37	107.	15.20	15.10	15.60	15.30
12.	13.40	12.90	13.50	13.27	60.	14.90	14.90	14.90	14.90	108.	10.60	10.40	11.00	10.67
13.	13.50	13.60	13.70	13.60	61.	14.30	14.20	14.30	14.27	109.	16.20	15.90	16.70	16.27
14.	15.00	14.80	15.50	15.10	62.	11.50	12.00	11.60	11.70	110.	12.80	13.10	13.10	13.00
15.	10.90	11.10	11.10	11.03	63.	15.20	14.80	15.20	15.07	111.	11.50	11.20	11.70	11.47
16.	10.70	10.20	10.90	10.60	64.	14.50	14.50	14.70	14.57	112.	12.30	12.30	12.60	12.40
17.	15.90	15.60	16.00	15.83	65.	12.60	13.00	13.00	12.87	113.	15.90	16.30	16.30	16.17
18.	13.20	13.70	13.40	13.43	66.	14.70	14.40	14.80	14.63	114.	14.30	14.70	14.70	14.57
19.	14.60	14.60	14.90	14.70	67.	16.20	15.90	16.50	16.20	115.	13.90	14.30	14.00	14.07
20.	16.20	16.40	16.30	16.30	68.	13.10	12.70	13.60	13.13	116.	10.80	11.10	11.00	10.97
21.	10.90	11.10	10.90	10.97	69.	12.00	11.90	12.20	12.03	117.	16.50	16.50	17.00	16.67
22.	13.60	13.70	13.90	13.73	70.	15.10	14.70	15.10	14.97	118.	15.60	15.50	15.90	15.67
23.	10.60	10.40	10.90	10.63	71.	11.00	10.90	11.30	11.07	119.	12.50	13.00	13.00	12.83
24.	14.40	14.10	14.60	14.37	72.	11.10	10.90	11.20	11.07	120.	11.50	11.10	11.80	11.47
25.	12.50	12.90	12.60	12.67	73.	14.20	14.40	14.40	14.33	121.	15.00	14.60	15.20	14.93
26.	11.30	11.60	11.30	11.40	74.	13.40	13.20	13.80	13.47	122.	12.60	12.80	12.70	12.70
27.	15.20	15.50	15.40	15.37	75.	15.20	15.50	15.50	15.40	123.	12.20	11.80	12.30	12.10
28.	12.20	12.10	12.30	12.20	76.	15.30	15.70	15.70	15.57	124.	11.00	10.60	11.20	10.93
29.	13.80	13.40	14.20	13.80	77.	15.90	16.00	16.30	16.07	125.	13.40	13.00	13.70	13.37
30.	13.20	13.30	13.50	13.33	78.	16.00	16.30	16.50	16.27	126.	12.40	12.60	12.90	12.63
31.	16.00	16.50	16.10	16.20	79.	11.00	10.90	11.40	11.10	127.	15.10	15.00	15.50	15.20
32.	11.90	12.10	12.40	12.13	80.	13.10	13.50	13.50	13.37	128.	13.10	12.80	13.60	13.17
33.	12.10	11.90	12.30	12.10	81.	16.30	16.70	16.40	16.47	129.	14.10	14.50	14.50	14.37
34.	15.10	15.60	15.30	15.33	82.	11.50	11.10	11.60	11.40	130.	16.30	16.00	16.30	16.20
35.	15.90	16.30	16.10	16.10	83.	15.00	15.10	15.40	15.17	131.	10.80	11.20	11.20	11.07
36.	10.70	10.60	10.90	10.73	84.	13.10	13.40	13.40	13.30	132.	15.50	15.90	15.70	15.70
37.	12.00	12.40	12.00	12.13	85.	13.90	14.30	14.30	14.17	133.	11.20	11.10	11.30	11.20
38.	10.70	10.30	10.90	10.63	86.	16.30	16.40	16.70	16.47	134.	10.50	10.40	10.60	10.50
39.	13.00	13.30	13.20	13.17	87.	15.90	15.90	16.10	15.97	135.	10.60	10.60	10.80	10.67
40.	12.80	13.10	13.00	12.97	88.	15.80	15.30	15.90	15.67	136.	16.10	15.90	16.60	16.20
41.	12.10	12.40	12.20	12.23	89.	11.50	11.60	12.00	11.70	137.	13.00	13.10	13.20	13.10
42.	13.40	13.60	13.70	13.57	90.	11.90	11.50	12.20	11.87	138.	12.40	12.30	12.80	12.50
43.	12.10	12.60	12.40	12.37	91.	10.60	10.70	10.70	10.67	139.	10.60	11.00	11.00	10.87
44.	13.50	14.00	14.00	13.83	92.	15.20	15.30	15.40	15.30	140.	15.40	15.70	15.80	15.63
45.	11.10	11.10	11.60	11.27	93.	16.10	16.00	16.20	16.10	141.	12.20	12.20	12.60	12.33
46.	14.50	14.20	14.90	14.53	94.	11.40	11.90	11.60	11.63	142.	16.30	16.70	16.40	16.47
47.	13.40	13.20	13.50	13.37	95.	16.30	16.60	16.60	16.50	143.	10.60	10.30	10.80	10.57
48.	14.90	15.00	14.90	14.93	96.	14.60	14.30	15.00	14.63	144.	13.40	13.20	13.60	13.40

RAW SCORES OF NEW AGILITY TEST OF 13 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
145	11. 30	10. 80	11. 50	11.20	200	10. 60	10. 70	10. 80	10.70	255	14. 80	14. 30	15. 20	14.77
146.	12.70	12.60	13.00	12.77	201.	13.80	13.60	13.90	13.77	256.	16.50	16.60	16.50	16.53
147.	16.20	15.90	16.40	16.17	202.	16.30	16.30	16.70	16.43	257.	12.00	11.60	12.30	11.97
148.	15.20	15.70	15.40	15.43	203.	12.70	13.00	12.80	12.83	258.	13.30	13.50	13.60	13.47
149.	14.00	14.10	14.10	14.07	204.	15.10	14.80	15.20	15.03	259.	16.50	16.80	16.60	16.63
150.	14.70	15.10	14.80	14.87	205.	15.80	15.90	16.00	15.90	260.	11.90	12.20	12.20	12.10
151.	13.30	13.70	13.70	13.57	206.	11.50	11.30	11.90	11.57	261.	11.50	12.00	11.80	11.77
152.	13.00	13.50	13.00	13.17	207.	10.90	10.60	10.90	10.80	262.	16.10	16.40	16.60	16.37
153.	11.40	11.20	11.70	11.43	208.	13.10	12.70	13.30	13.03	263.	11.70	11.50	12.00	11.73
154.	14.80	15.10	14.80	14.90	209.	14.50	14.80	14.80	14.70	264.	14.10	14.60	14.40	14.37
155.	14.70	14.80	14.70	14.73	210.	12.10	12.10	12.30	12.17	265.	12.10	12.20	12.10	12.13
156.	12.20	12.00	12.60	12.27	211.	13.90	14.20	14.30	14.13	266.	14.50	14.20	14.50	14.40
157.	12.50	12.40	12.70	12.53	212.	11.90	11.90	12.40	12.07	267.	11.00	10.60	11.00	10.87
158.	13.90	13.60	14.20	13.90	213.	12.60	12.90	13.00	12.83	268.	16.10	16.20	16.10	16.13
159.	13.20	13.10	13.60	13.30	214.	16.50	16.00	16.60	16.37	269.	16.20	16.70	16.50	16.47
160.	11.00	10.80	11.40	11.07	215.	16.20	16.20	16.60	16.33	270.	15.10	15.30	15.10	15.17
161.	15.40	15.60	15.90	15.63	216.	13.60	13.20	13.70	13.50	271.	13.60	13.90	13.90	13.80
162.	11.20	11.60	11.40	11.40	217.	13.70	13.70	14.00	13.80	272.	13.80	13.90	13.80	13.83
163.	14.30	14.20	14.80	14.43	218.	15.40	15.20	15.80	15.47	273.	15.40	15.70	15.90	15.67
164.	11.20	10.90	11.30	11.13	219.	10.80	10.40	10.80	10.67	274.	11.40	11.80	11.60	11.60
165.	10.70	10.40	10.80	10.63	220.	10.90	11.20	11.00	11.03	275.	15.60	15.10	16.00	15.57
166.	12.40	12.20	12.90	12.50	221.	10.70	10.90	10.90	10.83	276.	10.70	10.80	11.00	10.83
167.	15.60	16.00	15.60	15.73	222.	16.10	15.70	16.30	16.03	277.	11.30	11.00	11.60	11.30
168.	12.70	12.40	13.20	12.77	223.	14.40	14.40	14.70	14.50	278.	11.00	10.90	11.00	10.97
169.	16.00	15.50	16.50	16.00	224.	14.80	14.70	15.20	14.90	279.	14.10	13.70	14.10	13.97
170.	16.30	16.20	16.70	16.40	225.	11.20	11.20	11.20	11.20	280.	12.90	13.30	13.00	13.07
171.	12.20	12.30	12.30	12.27	226.	13.30	13.70	13.70	13.57	281.	13.90	13.90	13.90	13.90
172.	15.60	15.20	15.90	15.57	227.	15.50	15.20	15.60	15.43	282.	15.30	15.40	15.40	15.37
173.	16.00	15.60	16.00	15.87	228.	11.50	11.40	11.70	11.53	283.	12.50	12.40	12.80	12.57
174.	14.10	14.20	14.30	14.20	229.	10.70	10.40	11.00	10.70	284.	12.50	12.20	12.70	12.47
175.	15.80	15.90	16.30	16.00	230.	15.80	15.40	16.10	15.77	285.	12.10	11.70	12.30	12.03
176.	11.40	11.10	11.40	11.30	231.	14.50	14.40	14.80	14.57	286.	13.50	13.20	13.70	13.47
177.	11.80	11.50	11.90	11.73	232.	10.80	10.60	11.10	10.83	287.	15.20	14.70	15.50	15.13
178.	15.10	14.80	15.30	15.07	233.	15.40	15.10	15.40	15.30	288.	15.30	15.20	15.60	15.37
179.	14.70	14.50	14.80	14.67	234.	14.90	14.50	15.30	14.90	289.	11.00	10.50	11.00	10.83
180.	12.30	12.60	12.40	12.43	235.	10.70	11.20	11.10	11.00	290.	14.00	13.90	14.10	14.00
181.	12.70	12.70	13.00	12.80	236.	12.00	11.80	12.10	11.97	291.	12.00	11.50	12.10	11.87
182.	13.20	12.90	13.40	13.17	237.	11.80	12.10	12.10	12.00	292.	15.80	15.50	16.00	15.77
183.	14.00	14.40	14.30	14.23	238.	14.00	14.40	14.20	14.20	293.	11.10	10.90	11.60	11.20
184.	15.40	15.50	15.80	15.57	239.	15.60	15.60	15.80	15.67	294.	10.80	10.40	10.80	10.67
185.	15.90	16.10	16.40	16.13	240.	13.60	13.10	13.90	13.53	295.	11.80	11.40	11.80	11.67
186.	14.90	15.10	15.30	15.10	241.	10.70	10.40	11.10	10.73	296.	15.50	15.40	15.60	15.50
187.	10.60	10.60	11.10	10.77	242.	12.10	12.00	12.30	12.13	297.	13.00	12.70	13.10	12.93
188.	10.90	11.10	11.10	11.03	243.	12.70	13.10	13.10	12.97	298.	11.60	12.00	12.00	11.87
189.	13.50	13.60	14.00	13.70	244.	12.10	12.50	12.30	12.30	299.	12.30	12.70	12.70	12.57
190.	15.30	14.80	15.80	15.30	245.	14.10	13.90	14.40	14.13	300.	13.40	13.70	13.50	13.53
191.	12.40	12.50	12.60	12.50	246.	11.90	11.90	12.20	12.00	301.	11.20	11.60	11.60	11.47
192.	15.30	15.70	15.30	15.43	247.	15.70	16.00	15.80	15.83	302.	14.00	13.70	14.30	14.00
193.	11.40	11.60	11.60	11.53	248.	14.40	14.70	14.90	14.67	303.	12.50	12.80	12.60	12.63
194.	11.40	10.90	11.70	11.33	249.	14.00	14.30	14.50	14.27	304.	14.50	14.20	14.70	14.47
195.	16.40	16.30	16.70	16.47	250.	12.70	12.50	12.80	12.67	305.	14.00	14.30	14.30	14.20
196.	10.60	10.70	11.00	10.77	251.	13.90	13.70	14.00	13.87	306.	12.60	12.20	12.90	12.57
197.	14.50	15.00	14.80	14.77	252.	16.10	16.30	16.30	16.23	307.	15.30	15.00	15.60	15.30
198.	16.30	15.90	16.40	16.20	253.	16.10	15.70	16.20	16.00	308.	11.80	12.30	12.00	12.03
199.	12.40	12.40	12.80	12.53	254.	15.70	15.60	15.80	15.70	309.	16.30	16.30	16.30	16.30

RAW SCORES OF NEW AGILITY TEST OF 13 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
310.	13.10	13.30	13.50	13.30	365.	15.70	15.90	16.10	15.90	420.	12.30	12.10	12.40	12.27
311.	13.20	12.70	13.70	13.20	366.	15.70	15.70	15.70	15.70	421.	13.10	13.60	13.20	13.30
312.	16.00	16.00	16.30	16.10	367.	14.00	14.40	14.10	14.17	422.	11.80	12.20	12.20	12.07
313.	10.60	10.50	11.00	10.70	368.	15.50	15.80	16.00	15.77	423.	13.50	13.80	13.80	13.70
314.	13.50	13.10	13.90	13.50	369.	11.20	11.30	11.40	11.30	424.	15.20	15.50	15.30	15.33
315.	11.50	11.60	12.00	11.70	370.	12.10	12.40	12.20	12.23	425.	15.00	14.90	15.00	14.97
316.	16.10	16.00	16.20	16.10	371.	12.10	12.10	12.40	12.20	426.	11.40	11.30	11.90	11.53
317.	10.70	11.00	11.00	10.90	372.	12.80	12.60	13.00	12.80	427.	12.20	12.50	12.50	12.40
318.	15.00	14.90	15.10	15.00	373.	14.80	14.50	14.90	14.73	428.	12.80	12.90	13.00	12.90
319.	11.50	11.80	11.70	11.67	374.	12.40	11.90	12.50	12.27	429.	14.80	15.00	14.90	14.90
320.	12.20	11.80	12.40	12.13	375.	13.90	14.20	14.00	14.03	430.	14.40	14.40	14.70	14.50
321.	11.40	11.40	11.80	11.53	376.	15.70	15.80	16.00	15.83	431.	15.50	15.30	16.00	15.60
322.	11.80	12.00	12.00	11.93	377.	13.40	13.40	13.60	13.47	432.	12.20	12.40	12.40	12.33
323.	12.70	13.10	12.70	12.83	378.	12.80	13.20	13.20	13.07	433.	15.90	16.00	16.30	16.07
324.	15.00	15.00	15.40	15.13	379.	11.00	10.50	11.20	10.90	434.	12.30	12.70	12.40	12.47
325.	15.70	15.60	16.00	15.77	380.	12.40	12.00	12.70	12.37	435.	10.60	10.70	10.70	10.67
326.	11.20	11.20	11.30	11.23	381.	10.70	11.00	11.00	10.90	436.	10.70	11 10	10.90	10.90
327.	16.30	16.10	16.40	16.27	382.	14.90	14.70	15.30	14.97	437.	11.10	11.10	11.20	11.13
328.	16.00	16.00	16.40	16.13	383.	16.20	16.40	16.50	16.37	438.	11.20	11.20	11.30	11.23
329.	15.40	14.90	15.50	15.27	384.	15.90	15.50	16.00	15.80	439.	13.40	13.40	13.50	13.43
330.	14.60	14.60	15.00	14.73	385.	11.10	11.40	11.30	11.27	440.	15.00	15.10	15.10	15.07
331.	13.10	13.60	13.30	13.33	386.	14.20	14.00	14.20	14.13	441.	11.80	12.10	12.00	11.97
332.	13.70	13.90	14.20	13.93	387.	12.40	12.40	12.50	12.43	442.	12.10	12.30	12.40	12.27
333.	15.00	14.80	15.20	15.00	388.	15.30	14.80	15.70	15.27	443.	13.80	14.00	13.90	13.90
334.	16.40	16.00	16.60	16.33	389.	16 50	16.50	16.50	16.50	444.	12.50	12.80	12.80	12.70
335.	14.10	13.60	14.30	14.00	390.	15.30	15.10	15.70	15.37	445.	11.70	11.70	11.80	11.73
336.	10.80	10.80	11.20	10.93	391.	15.40	15.50	15.70	15.53	446.	10.70	10.40	11.10	10.73
337.	15.50	15.70	16.00	15.73	392.	11.90	11.60	12.20	11.90	447.	12.40	12.20	12.60	12.40
338.	12.00	12.40	12.00	12.13	393.	13.20	12.70	13.60	13.17	448.	11.20	10.80	11.40	11.13
339.	10.60	10.80	10.70	10.70	394.	12.10	12.30	12.20	12.20	449.	12.60	12.20	12.80	12.53
340.	13.20	12.90	13.50	13.20	395.	14.40	14.40	14.80	14.53	450.	16.00	16.10	16.30	16.13
341.	11.50	11.80	11.50	11.60	396.	15.50	15.30	15.50	15.43	451.	11.10	11.00	11.60	11.23
342.	11.80	11.90	11.90	11.87	397.	13.60	13.30	13.80	13.57	452.	14.40	14.10	14.80	14.43
343.	14.50	14.20	14.80	14.50	398.	11.20	10.80	11.60	11.20	453.	15.50	15.80	15.90	15.73
344.	12.70	12.70	12.70	12.70	399.	13.90	13.50	14.30	13.90	454.	11.80	12.20	12.00	12.00
345.	13.40	13.80	13.70	13.63	400.	11.70	11.40	12.20	11.77	455.	10.70	10.20	11.00	10.63
346.	15.90	16.20	16.10	16.07	401.	16.30	16.10	16.60	16.33	456.	15.30	15.20	15.60	15.37
347.	15.40	15.90	15.70	15.67	402.	15.40	15.50	15.70	15.53	457.	12.90	13.10	13.10	13.03
348.	12.70	12.90	12.80	12.80	403.	12.60	12.60	13.00	12.73	458.	14.50	14.30	14.80	14.53
349.	12.20	12.50	12.60	12.43	404.	14.70	14.60	14.80	14.70	459.	16.40	16.20	16.50	16.37
350.	13.70	13.50	14.00	13.73	405.	14.70	14.90	14.80	14.80	460.	11.00	10.70	11.30	11.00
351.	11.30	11.00	11.70	11.33	406.	14.40	14.80	14.50	14.57	461.	13.60	13.40	13.80	13.60
352.	14.10	14.30	14.10	14.17	407.	13.00	13.30	13.30	13.20	462.	12.80	12.50	13.10	12.80
353.	16.30	16.60	16.40	16.43	408.	14.20	14.20	14.20	14.20	463.	14.50	14.60	14.50	14.53
354.	15.00	15.30	15.20	15.17	409.	13.80	14.10	13.90	13.93	464.	12.00	12.40	12.30	12.23
355.	11.20	11.00	11.60	11.27	410.	12.80	13.10	13.10	13.00	465.	13.20	13.50	13.50	13.40
356.	13.50	13.40	13.90	13.60	411.	14.90	15.30	15.20	15.13	466.	11.10	11.10	11.30	11.17
357.	13.40	13.50	13.60	13.50	412.	13.00	13.50	13.40	13.30	467.	10.90	11.10	11.10	11.03
358.	10.90	11.10	11.10	11.03	413.	12.50	12.70	12.90	12.70	468.	10.90	10.50	11.20	10.87
359.	14.90	14.70	15.00	14.87	414.	12.10	12.20	12.20	12.17	469.	16.40	16.70	16.70	16.60
360.	10.50	10.80	10.60	10.63	415.	16.10	16.50	16.50	16.37	470.	14.20	14.20	14.50	14.30
361.	16.40	15.90	16.80	16.37	416.	12.60	12.40	13.00	12.67	471.	10.90	10.50	11.10	10.83
362.	13.90	14.40	14.30	14.20	417.	10.80	10.30	11.10	10.73	472.	13.10	12.70	13.30	13.03
363.	12.20	12.40	12.60	12.40	418.	11.70	11.30	12.00	11.67	473.	10.60	10.30	11.10	10.67
364.	15.10	14.70	15.60	15.13	419.	14.80	15.00	15.10	14.97	474.	13.40	13.20	13.40	13.33

RAW SCORES OF NEW AGILITY TEST OF 13 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
475.	12.40	12.60	12.90	12.63	530.	12.70	13.10	12.90	12.90	585.	12.50	12.40	12.80	12.57
476.	14.80	15.20	15.30	15.10	531.	13.20	13.30	13.60	13.37	586.	15.80	16.30	16.00	16.03
477.	14.50	14.60	14.90	14.67	532.	15.10	15.30	15.20	15.20	587.	10.70	10.60	10.90	10.73
478.	16.10	16.50	16.50	16.37	533.	12.20	11.70	12.30	12.07	588.	13.00	13.50	13.40	13.30
479.	13.00	13.10	13.30	13.13	534.	12.90	12.80	13.40	13.03	589.	11.50	11.40	11.90	11.60
480.	12.50	12.60	12.80	12.63	535.	15.90	16.30	16.00	16.07	590.	12.50	12.80	12.90	12.73
481.	13.70	13.50	14.10	13.77	536.	10.80	10.40	11.10	10.77	591.	12.30	12.00	12.60	12.30
482.	11.50	11.00	11.80	11.43	537.	11.20	10.80	11.40	11.13	592.	10.80	10.40	10.90	10.70
483.	12.10	12.00	12.20	12.10	538.	13.30	13.00	13.40	13.23	593.	13.70	13.20	13.90	13.60
484.	13.50	13.70	13.80	13.67	539.	15.60	16.00	15.90	15.83	594.	15.50	15.90	15.70	15.70
485.	11.70	11.60	12.00	11.77	540.	13.70	13.60	13.90	13.73	595.	15.00	15.30	15.00	15.10
486.	14.80	15.00	15.10	14.97	541.	13.80	13.90	14.10	13.93	596.	11.00	11.00	11.50	11.17
487.	14.90	15.10	15.00	15.00	542.	15.50	15.80	15.50	15.60	597.	15.50	15.40	15.80	15.57
488.	13.10	13.40	13.30	13.27	543.	15.70	15.20	15.90	15.60	598.	11.90	12.10	12.30	12.10
489.	16.30	16.50	16.50	16.43	544.	15.10	14.90	15.10	15.03	599.	11.30	11.70	11.60	11.53
490.	11.60	11.50	12.00	11.70	545.	14.80	15.10	15.10	15.00	600.	14.90	14.80	15.10	14.93
491.	13.70	13.40	14.00	13.70	546.	16.10	15.70	16.10	15.97	601.	11.20	11.20	11.60	11.33
492.	14.00	13.70	14.30	14.00	547.	10.80	10.80	11.10	10.90	602.	13.90	14.40	14.40	14.23
493.	16.00	16.20	16.40	16.20	548.	12.70	12.50	13.10	12.77	603.	13.90	13.80	13.90	13.87
494.	11.70	11.70	11.80	11.73	549.	10.70	10.90	11.20	10.93	604.	11.10	11.30	11.40	11.27
495.	12.60	12.80	12.90	12.77	550.	15.40	15.80	15.50	15.57	605.	11.70	12.20	11.80	11.90
496.	12.00	11.90	12.40	12.10	551.	14.70	14.60	15.10	14.80	606.	11.50	11.80	11.90	11.73
497.	11.50	11.30	11.80	11.53	552.	11.70	12.00	11.80	11.83	607.	13.50	13.40	13.80	13.57
498.	14.50	14.50	14.90	14.63	553.	15.90	15.90	16.20	16.00	608.	15.90	16.20	16.20	16.10
499.	12.30	12.50	12.50	12.43	554.	15.80	15.40	16.10	15.77	609.	15.40	15.40	15.80	15.53
500.	13.00	13.30	13.50	13.27	555.	12.10	12.40	12.20	12.23	610.	14.80	14.90	15.10	14.93
501.	12.70	13.10	12.80	12.87	556.	14.00	13.80	14.20	14.00	611.	12.20	12.10	12.50	12.27
502.	11.00	10.50	11.50	11.00	557.	14.80	15.00	14.90	14.90	612.	11.40	11.80	11.50	11.57
503.	13.20	13.40	13.70	13.43	558.	15.20	14.90	15.20	15.10	613.	11.60	11.50	11.90	11.67
504.	15.40	15.80	15.40	15.53	559.	12.80	12.40	13.00	12.73	614.	15.20	14.90	15.50	15.20
505.	13.30	13.70	13.70	13.57	560.	16.50	16.40	16.90	16.60	615.	14.40	14.30	14.80	14.50
506.	13.00	12.50	13.00	12.83	561.	11.60	11.90	11.90	11.80	616.	12.50	12.60	12.80	12.63
507.	15.50	15.30	15.50	15.43	562.	14.20	14.20	14.60	14.33	617.	15.30	15.30	15.50	15.37
508.	11.90	12.30	12.10	12.10	563.	12.60	12.70	13.00	12.77	618.	13.70	13.60	13.90	13.73
509.	15.10	15.10	15.60	15.27	564.	15.20	14.80	15.30	15.10	619.	15.00	14.90	15.30	15.07
510.	15.90	16.20	16.00	16.03	565.	15.00	15.20	15.00	15.07	620.	14.50	14.30	14.90	14.57
511.	13.50	13.40	13.60	13.50	566.	13.40	13.80	13.60	13.60	621.	12.70	12.30	12.90	12.63
512.	11.50	11.70	11.80	11.67	567.	14.70	14.60	14.70	14.67	622.	14.20	14.10	14.40	14.23
513.	11.40	11.80	11.50	11.57	568.	12.30	12.30	12.40	12.33	623.	11.60	11.60	11.80	11.67
514.	12.70	13.00	12.80	12.83	569.	13.50	13.50	13.90	13.63	624.	15.10	14.80	15.20	15.03
515.	16.40	16.00	16.70	16.37	570.	10.80	11.30	11.20	11.10	625.	11.50	11.80	11.80	11.70
516.	13.60	13.60	13.70	13.63	571.	11.50	11.80	11.80	11.70	626.	13.10	13.30	13.40	13.27
517.	14.10	13.80	14.40	14.10	572.	12.10	11.90	12.30	12.10	627.	13.10	12.90	13.30	13.10
518.	14.20	14.40	14.60	14.40	573.	10.60	10.60	10.90	10.70	628.	12.70	12.80	12.90	12.80
519.	15.70	15.60	15.90	15.73	574.	14.20	14.10	14.70	14.33	629.	13.60	13.80	13.80	13.73
520.	15.60	15.90	16.00	15.83	575.	15.10	15.20	15.10	15.13	630.	13.80	13.80	14.00	13.87
521.	16.20	16.10	16.60	16.30	576.	12.20	12.60	12.40	12.40	631.	13.50	13.80	13.70	13.67
522.	11.20	10.80	11.30	11.10	577.	15.10	14.80	15.50	15.13	632.	13.40	13.60	13.80	13.60
523.	14.70	14.80	14.70	14.73	578.	11.90	12.10	12.40	12.13	633.	13.70	13.30	14.20	13.73
524.	13.70	13.90	14.00	13.87	579.	11.80	11.90	11.90	11.87	634.	13.10	12.90	13.20	13.07
525.	16.40	16.60	16.50	16.50	580.	14.70	15.00	14.70	14.80	635.	15.40	15.70	15.90	15.67
526.	10.70	10.90	10.80	10.80	581.	13.80	14.10	13.90	13.93	636.	14.70	14.60	15.00	14.77
527.	11.50	11.90	11.60	11.67	582.	12.00	12.30	12.30	12.20	637.	11.40	11.50	11.50	11.47
528.	13.20	13.20	13.60	13.33	583.	13.80	13.30	14.10	13.73	638.	12.90	13.40	13.20	13.17
529.	13.90	13.70	14.20	13.93	584.	14.30	14.60	14.30	14.40	639.	12.60	12.70	12.90	12.73

RAW SCORES OF NEW AGILITY TEST OF 13 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
640	15.10	15.30	15.20	15.20	695.	11.10	11.40	11.30	11.27	750.	11.00	11.00	11.50	11.17
641.	13.00	12.70	13.50	13.07	696.	14.00	14.40	14.10	14.17	751.	10.90	11.10	10.90	10.97
642.	15.10	14.60	15.30	15.00	697.	15.60	15.70	15.70	15.67	752.	12.70	12.40	12.80	12.63
643.	10.70	10.50	10.80	10.67	698.	15.50	15.20	15.90	15.53	753.	11.30	11.40	11.50	11.40
644.	12.90	13.30	13.30	13.17	699.	10.70	10.40	10.80	10.63	754.	13.90	14.40	14.20	14.17
645.	16.30	16.40	16.30	16.33	700.	15.00	15.40	15.30	15.23	755.	14.60	14.80	14.90	14.77
646.	12.70	12.30	12.70	12.57	701.	13.30	13.00	13.40	13.23	756.	11.80	11.70	12.10	11.87
647.	12.50	12.80	12.70	12.67	702.	13.60	13.10	13.90	13.53	757.	11.70	12.10	11.80	11.87
648.	13.10	12.70	13.30	13.03	703.	13.60	13.90	13.90	13.80	758.	14.70	14.80	15.00	14.83
649.	15.30	15.20	15.70	15.40	704.	15.40	15.00	15.80	15.40	759.	14.90	15.20	15.20	15.10
650.	11.80	11.70	12.00	11.83	705.	12.80	12.90	13.00	12.90	760.	15.70	15.80	16.00	15.83
651.	11.90	12.30	12.30	12.17	706.	11.70	12.00	12.00	11.90	761.	14.60	14.80	15.10	14.83
652.	10.50	10.70	10.50	10.57	707.	14.60	14.90	15.00	14.83	762.	13.30	13.80	13.70	13.60
653.	12.50	13.00	12.70	12.73	708.	16.00	15.70	16.10	15.93	763.	10.80	11.20	10.80	10.93
654.	13.60	13.40	13.80	13.60	709.	10.90	11.20	11.10	11.07	764.	14.60	14.10	14.80	14.50
655.	12.40	12.00	12.70	12.37	710.	11.80	12.30	11.90	12.00	765.	11.60	11.20	11.80	11.53
656.	12.30	11.80	12.60	12.23	711.	13.30	13.50	13.70	13.50	766.	11.80	11.50	12.20	11.83
657.	14.20	14.50	14.70	14.47	712.	13.20	13.70	13.60	13.50	767.	13.50	13.20	13.90	13.53
658.	15.20	15.20	15.70	15.37	713.	14.10	13.70	14.50	14.10	768.	14.80	14.60	14.90	14.77
659.	11.60	12.00	11.60	11.73	714.	12.70	12.70	12.80	12.73	769.	15.80	16.20	16.20	16.07
660.	12.00	11.90	12.20	12.03	715.	13.80	13.40	14.00	13.73	770.	15.20	14.90	15.70	15.27
661.	15.80	16.20	16.10	16.03	716.	13.70	13.30	14.10	13.70	771.	13.10	13.20	13.20	13.17
662.	12.60	12.60	13.00	12.73	717.	14.80	14.90	15.00	14.90	772.	13.20	13.10	13.30	13.20
663.	10.80	10.40	11.00	10.73	718.	15.60	15.70	15.90	15.73	773.	11.10	10.90	11.40	11.13
664.	14.70	14.20	15.00	14.63	719.	13.40	13.00	13.50	13.30	774.	10.90	10.60	11.00	10.83
665.	12.10	12.20	12.20	12.17	720.	13.20	13.70	13.50	13.47	775.	11.80	12.00	12.00	11.93
666.	10.90	10.80	11.20	10.97	721.	10.90	10.60	11.20	10.90	776.	16.40	16.50	16.70	16.53
667.	14.80	14.80	15.00	14.87	722.	13.20	13.70	13.60	13.50	777.	16.40	16.00	16.40	16.27
668.	14.60	14.90	15.00	14.83	723.	10.60	10.60	11.00	10.73	778.	14.00	13.90	14.10	14.00
669.	15.90	15.70	16.00	15.87	724.	13.60	13.60	14.00	13.73	779.	12.00	12.30	12.10	12.13
670.	11.80	11.50	12.20	11.83	725.	14.60	14.60	15.00	14.73	780.	12.10	12.50	12.10	12.23
671.	14.10	14.00	14.20	14.10	726.	10.60	10.50	11.00	10.70	781.	14.00	13.70	14.40	14.03
672.	10.60	10.90	11.00	10.83	727.	15.80	15.70	16.30	15.93	782.	14.00	14.40	14.10	14.17
673.	11.10	11.40	11.20	11.23	728.	12.00	12.30	12.00	12.10	783.	10.60	11.00	10.60	10.73
674.	15.20	15.00	15.30	15.17	729.	15.40	15.20	15.80	15.47	784.	15.00	15.00	15.20	15.07
675.	11.90	12.20	12.40	12.17	730.	11.50	11.50	12.00	11.67	785.	11.30	11.40	11.60	11.43
676.	11.10	10.80	11.50	11.13	731.	13.80	14.00	14.20	14.00	786.	11.00	10.70	11.40	11.03
677.	15.90	15.70	16.10	15.90	732.	13.70	13.20	13.70	13.53	787.	13.60	13.50	13.70	13.60
678.	15.70	16.00	15.80	15.83	733.	15.80	15.40	16.30	15.83	788.	11.40	11.30	11.90	11.53
679.	15.50	15.10	15.70	15.43	734.	11.80	11.90	12.20	11.97	789.	13.50	13.30	13.70	13.50
680.	11.00	11.30	11.00	11.10	735.	12.90	13.10	13.30	13.10	790.	13.40	13.70	13.50	13.53
681.	15.80	16.30	16.20	16.10	736.	12.50	12.80	12.70	12.67	791.	15.90	16.00	16.10	16.00
682.	12.70	13.20	13.00	12.97	737.	15.30	15.40	15.50	15.40	792.	14.00	13.70	14.20	13.97
683.	11.90	11.70	12.40	12.00	738.	12.90	12.90	13.00	12.93	793.	10.50	10.40	10.60	10.50
684.	10.90	10.70	11.30	10.97	739.	11.40	10.90	11.90	11.40	794.	11.40	11.50	11.70	11.53
685.	11.20	11.60	11.60	11.47	740.	13.30	13.20	13.40	13.30	795.	12.40	12.00	12.80	12.40
686.	16.30	16.60	16.60	16.50	741.	13.20	13.20	13.60	13.33	796.	15.80	15.30	15.80	15.63
687.	16.40	16.70	16.60	16.57	742.	12.40	12.60	12.40	12.47	797.	12.90	12.60	13.30	12.93
688.	15.30	15.00	15.70	15.33	743.	13.50	13.50	13.90	13.63	798.	13.00	12.80	13.30	13.03
689.	13.00	13.40	13.10	13.17	744.	14.70	15.10	15.10	14.97	799.	11.30	11.70	11.60	11.53
690.	12.50	12.30	12.60	12.47	745.	13.20	13.60	13.20	13.33	800.	11.20	11.50	11.60	11.43
691.	15.20	15.40	15.60	15.40	746.	14.40	14.30	14.60	14.43	801.	11.60	11.60	11.70	11.63
692.	13.00	12.90	13.50	13.13	747.	16.30	16.60	16.60	16.50	802.	15.20	15.20	15.20	15.20
693.	16.00	16.30	16.40	16.23	748.	10.80	11.10	11.20	11.03	803.	12.30	12.10	12.70	12.37
694.	13.70	13.40	14.00	13.70	749.	11.70	11.40	12.10	11.73	804.	13.50	13.00	13.70	13.40

RAW SCORES OF NEW AGILITY TEST OF 13 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
805.	10.80	10.60	10.90	10.77	864.	16.40	16.10	16.70	16.40	923.	13.30	13.10	13.70	13.37
806.	12.70	12.20	13.00	12.63	865.	14.80	14.80	14.80	14.80	924.	13.20	12.80	13.60	13.20
807.	15.90	16.00	16.00	15.97	866.	11.00	11.20	11.40	11.20	925.	11.40	11.60	11.50	11.50
808.	13.20	13.70	13.60	13.50	867.	11.00	11.40	11.30	11.23	926.	15.40	15.70	15.80	15.63
809.	14.80	15.30	15.00	15.03	868.	14.10	14.10	14.50	14.23	927.	12.90	12.80	13.30	13.00
810.	14.10	14.10	14.20	14.13	869.	13.40	13.80	13.60	13.60	928.	14.60	14.20	15.00	14.60
811.	11.70	11.20	12.00	11.63	870.	11.70	11.40	12.10	11.73	929.	12.40	12.30	12.70	12.47
812.	15.60	15.80	15.70	15.70	871.	15.90	16.30	15.90	16.03	930.	15.00	14.60	15.30	14.97
813.	15.90	15.60	16.10	15.87	872.	13.20	12.70	13.50	13.13	931.	14.40	14.90	14.50	14.60
814.	11.90	12.30	12.10	12.10	873.	16.30	16.60	16.70	16.53	932.	11.10	11.20	11.20	11.17
815.	14.40	14.80	14.80	14.67	874.	12.20	12.10	12.30	12.20	933.	10.80	10.90	11.30	11.00
816.	14.80	14.30	14.80	14.63	875.	12.20	11.90	12.20	12.10	934.	13.10	12.80	13.30	13.07
817.	14.10	14.50	14.50	14.37	876.	13.80	14.20	14.10	14.03	935.	13.40	13.70	13.40	13.50
818.	13.00	13.20	13.40	13.20	877.	16.10	16.50	16.30	16.30	936.	10.90	11.00	11.30	11.07
819.	12.60	13.00	12.90	12.83	878.	13.50	14.00	13.90	13.80	937.	16.40	16.30	16.80	16.50
820.	16.40	16.30	16.50	16.40	879.	11.50	11.20	11.80	11.50	938.	15.90	16.00	16.30	16.07
821.	14.20	14.50	14.30	14.33	880.	14.80	14.70	14.90	14.80	939.	11.80	11.80	12.20	11.93
822.	12.20	12.60	12.50	12.43	881.	13.10	13.10	13.60	13.27	940.	13.90	13.60	14.10	13.87
823.	14.50	14.40	14.90	14.60	882.	14.30	14.30	14.60	14.40	941.	13.30	13.20	13.60	13.37
824.	13.90	14.30	14.20	14.13	883.	16.40	16.50	16.50	16.47	942.	12.30	12.40	12.70	12.47
825.	12.30	12.00	12.50	12.27	884.	11.00	11.30	11.30	11.20	943.	15.80	15.60	16.10	15.83
826.	14.20	13.90	14.50	14.20	885.	10.80	11.20	11.30	11.10	944.	12.20	12.20	12.40	12.27
827.	11.30	11.50	11.40	11.40	886.	11.10	11.20	11.30	11.20	945.	12.70	12.60	13.10	12.80
828.	15.00	15.40	15.10	15.17	887.	10.70	10.30	10.70	10.57	946.	14.10	14.10	14.50	14.23
829.	13.90	14.00	14.20	14.03	888.	16.40	16.10	16.80	16.43	947.	11.40	11.30	11.60	11.43
830.	14.90	15.40	15.20	15.17	889.	12.90	13.10	13.40	13.13	948.	15.90	16.30	16.40	16.20
831.	13.90	14.30	14.40	14.20	890.	13.80	14.00	14.20	14.00	949.	11.00	10.50	11.20	10.90
832.	14.70	14.70	14.70	14.70	891.	11.30	11.80	11.60	11.57	950.	13.80	14.30	14.10	14.07
833.	11.70	12.20	12.20	12.03	892.	16.30	15.90	16.70	16.30	951.	12.60	12.30	13.10	12.67
834.	15.20	15.30	15.50	15.33	893.	16.00	15.90	16.40	16.10	952.	14.80	14.90	14.80	14.83
835.	13.60	13.30	14.00	13.63	894.	13.60	13.20	14.00	13.60	953.	15.00	15.20	15.40	15.20
836.	12.20	11.70	12.50	12.13	895.	13.60	14.00	13.80	13.80	954.	15.80	16.00	16.00	15.93
837.	12.50	12.60	12.90	12.67	896.	11.80	11.90	12.00	11.90	955.	10.60	10.90	11.00	10.83
838.	11.30	11.10	11.60	11.33	897.	15.70	15.90	15.90	15.83	956.	13.20	13.00	13.50	13.23
839.	15.50	15.00	15.90	15.47	898.	12.50	12.70	12.70	12.63	957.	15.40	15.40	15.70	15.50
840.	12.00	12.30	12.30	12.20	899.	16.30	16.30	16.60	16.40	958.	14.90	15.20	15.10	15.07
841.	11.60	12.10	11.80	11.83	900.	10.60	10.40	10.70	10.57	959.	12.90	13.20	13.30	13.13
842.	11.20	11.00	11.50	11.23	901.	13.90	13.60	14.10	13.87	960.	12.30	12.50	12.60	12.47
843.	13.90	13.50	14.20	13.87	902.	13.10	12.90	13.50	13.17	961.	15.40	15.60	15.60	15.53
844.	13.10	13.40	13.30	13.27	903.	11.70	11.30	12.10	11.70	962.	12.90	13.20	13.40	13.17
845.	11.50	11.10	12.00	11.53	904.	14.40	14.50	14.80	14.57	963.	13.30	13.10	13.60	13.33
846.	16.10	16.20	16.60	16.30	905.	10.50	10.20	10.70	10.47	964.	12.30	12.40	12.40	12.37
847.	11.70	12.20	11.70	11.87	906.	14.70	14.80	14.90	14.80	965.	12.40	12.50	12.90	12.60
848.	13.10	12.80	13.30	13.07	907.	13.70	13.50	13.80	13.67	966.	12.10	12.60	12.20	12.30
849.	10.90	11.20	11.40	11.17	908.	13.50	13.90	13.60	13.67	967.	16.00	16.40	16.10	16.17
850.	16.20	15.90	16.50	16.20	909.	13.40	13.40	13.60	13.47	968.	16.00	15.80	16.10	15.97
851.	16.00	16.20	16.40	16.20	910.	11.70	12.00	12.20	11.97	969.	11.90	12.30	12.10	12.10
852.	12.70	12.60	13.00	12.77	911.	15.10	15.00	15.60	15.23	970.	16.50	16.90	16.90	16.77
853.	13.90	14.30	14.10	14.10	912.	12.40	12.50	12.80	12.57	971.	14.80	14.70	14.90	14.80
854.	10.50	11.00	10.60	10.70	913.	14.90	14.90	15.00	14.93	972.	15.40	15.40	15.80	15.53
855.	12.40	12.50	12.60	12.50	914.	11.70	12.10	12.10	11.97	973.	12.70	13.20	12.90	12.93
856.	16.40	15.90	16.60	16.30	915.	12.20	11.80	12.40	12.13	974.	16.40	16.60	16.60	16.53
857.	11.00	11.40	11.20	11.20	916.	15.20	15.50	15.40	15.37	975.	14.20	13.70	14.20	14.03
858.	12.10	11.70	12.20	12.00	917.	11.10	11.60	11.20	11.30	976.	10.60	10.90	10.60	10.70
859.	12.10	12.00	12.40	12.17	918.	12.10	11.70	12.30	12.03	977.	11.20	10.90	11.70	11.27
860.	11.10	11.10	11.20	11.13	919.	14.10	14.30	14.20	14.20	978.	12.40	12.80	12.40	12.53
861.	11.00	11.50	11.20	11.23	920.	13.40	13.50	13.80	13.57	979.	13.10	13.20	13.30	13.20
862.	11.30	11.20	11.60	11.37	921.	10.70	10.40	11.20	10.77	980.	14.30	14.20	14.70	14.40
863.	13.60	13.30	14.00	13.63	922.	13.60	13.20	13.90	13.57	981.	13.30	12.90	13.40	13.20

APPENDIX - IV

RAW SCORES OF NEW AGILITY TEST OF 14 YEAR OLD BOYS

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
1.	11.00	11.40	11.00	11.13	49.	14.10	14.40	14.40	14.30	97.	14.80	14.80	15.00	14.87
2.	10.60	10.80	11.10	10.83	50.	13.00	13.20	13.40	13.20	98.	11.60	11.20	11.80	11.53
3.	12.40	12.70	12.70	12.60	51.	13.60	13.70	14.10	13.80	99.	12.20	12.60	12.40	12.40
4.	13.00	12.70	13.10	12.93	52.	11.60	12.00	12.00	11.87	100.	12.60	12.70	12.80	12.70
5.	14.20	13.80	14.60	14.20	53.	11.50	11.60	11.60	11.57	101.	14.30	14.20	14.50	14.33
6.	10.30	10.20	10.50	10.33	54.	11.00	11.00	11.20	11.07	102.	10.80	10.70	11.10	10.87
7.	11.40	11.40	11.50	11.43	55.	14.50	14.10	14.90	14.50	103.	12.70	12.20	12.90	12.60
8.	11.40	11.40	11.80	11.53	56.	12.30	12.20	12.40	12.30	104.	12.90	12.50	13.00	12.80
9.	14.50	14.90	14.90	14.77	57.	14.40	14.80	14.40	14.53	105.	12.50	12.70	12.90	12.70
10.	11.30	11.30	11.50	11.37	58.	14.80	14.80	15.00	14.87	106.	13.20	13.10	13.50	13.27
11.	12.30	12.30	12.30	12.30	59.	10.80	11.10	10.90	10.93	107.	13.90	13.80	14.40	14.03
12.	12.50	12.10	12.60	12.40	60.	13.70	13.80	13.70	13.73	108.	10.30	10.10	10.70	10.37
13.	12.60	12.70	12.80	12.70	61.	13.20	13.10	13.30	13.20	109.	14.80	14.50	15.20	14.83
14.	13.80	13.60	14.30	13.90	62.	11.00	11.50	11.10	11.20	110.	12.00	12.30	12.40	12.23
15.	10.50	10.70	10.70	10.63	63.	13.90	13.60	14.00	13.83	111.	11.00	10.70	11.20	10.97
16.	10.30	9.90	10.60	10.27	64.	13.40	13.40	13.70	13.50	112.	11.60	11.60	12.00	11.73
17.	14.60	14.20	14.60	14.47	65.	11.90	12.30	12.30	12.17	113.	14.50	14.90	15.00	14.80
18.	12.40	12.80	12.60	12.60	66.	13.60	13.30	13.70	13.53	114.	13.20	13.60	13.60	13.47
19.	13.50	13.40	13.80	13.57	67.	14.80	14.40	15.10	14.77	115.	12.90	13.30	13.00	13.07
20.	14.70	15.00	14.90	14.87	68.	12.30	11.80	12.80	12.30	116.	10.50	10.70	10.60	10.60
21.	10.50	10.70	10.50	10.57	69.	11.40	11.30	11.60	11.43	117.	15.00	15.00	15.50	15.17
22.	12.70	12.80	13.00	12.83	70.	13.90	13.50	13.90	13.77	118.	14.30	14.20	14.60	14.37
23.	10.30	10.10	10.60	10.33	71.	10.60	10.50	10.90	10.67	119.	11.80	12.30	12.20	12.10
24.	13.30	13.10	13.60	13.33	72.	10.70	10.40	10.70	10.60	120.	11.00	10.60	11.30	10.97
25.	11.80	12.20	11.90	11.97	73.	13.20	13.30	13.30	13.27	121.	13.80	13.40	14.00	13.73
26.	10.90	11.10	10.90	10.97	74.	12.60	12.30	12.90	12.60	122.	11.90	12.10	12.00	12.00
27.	14.00	14.20	14.20	14.13	75.	14.00	14.20	14.20	14.13	123.	11.60	11.20	11.60	11.47
28.	11.50	11.50	11.60	11.53	76.	14.00	14.40	14.50	14.30	124.	10.60	10.20	10.80	10.53
29.	12.90	12.40	13.30	12.87	77.	14.50	14.60	14.90	14.67	125.	12.50	12.10	12.90	12.50
30.	12.30	12.50	12.60	12.47	78.	14.60	14.90	15.10	14.87	126.	11.70	11.90	12.20	11.93
31.	14.60	15.10	14.70	14.80	79.	10.60	10.50	11.00	10.70	127.	13.90	13.70	14.30	13.97
32.	11.30	11.50	11.80	11.53	80.	12.30	12.70	12.70	12.57	128.	12.30	12.00	12.80	12.37
33.	11.50	11.30	11.60	11.47	81.	14.80	15.20	15.00	15.00	129.	13.10	13.50	13.50	13.37
34.	13.90	14.40	14.00	14.10	82.	11.00	10.60	11.10	10.90	130.	14.90	14.50	14.90	14.77
35.	14.50	15.00	14.70	14.73	83.	13.80	13.90	14.20	13.97	131.	10.40	10.90	10.80	10.70
36.	10.30	10.30	10.50	10.37	84.	12.30	12.50	12.60	12.47	132.	14.20	14.60	14.40	14.40
37.	11.40	11.80	11.40	11.53	85.	12.90	13.30	13.30	13.17	133.	10.70	10.70	10.90	10.77
38.	10.40	9.90	10.50	10.27	86.	14.80	15.00	15.30	15.03	134.	10.20	10.10	10.30	10.20
39.	12.20	12.50	12.40	12.37	87.	14.50	14.60	14.70	14.60	135.	10.30	10.20	10.50	10.33
40.	12.00	12.40	12.20	12.20	88.	14.40	14.00	14.50	14.30	136.	14.70	14.50	15.20	14.80
41.	11.50	11.70	11.60	11.60	89.	11.00	11.10	11.50	11.20	137.	12.20	12.30	12.40	12.30
42.	12.60	12.80	12.80	12.73	90.	11.30	11.00	11.60	11.30	138.	11.70	11.70	12.10	11.83
43.	11.50	12.00	11.80	11.77	91.	10.30	10.40	10.40	10.37	139.	10.30	10.70	10.70	10.57
44.	12.60	13.10	13.10	12.93	92.	13.90	14.10	14.20	14.07	140.	14.10	14.40	14.50	14.33
45.	10.70	10.60	11.10	10.80	93.	14.70	14.60	14.80	14.70	141.	11.50	11.60	12.00	11.70
46.	13.40	13.10	13.80	13.43	94.	10.90	11.40	11.10	11.13	142.	14.90	15.20	14.90	15.00
47.	12.50	12.40	12.70	12.53	95.	14.80	15.20	15.10	15.03	143.	10.20	9.90	10.50	10.20
48.	13.70	13.90	13.80	13.80	96.	13.50	13.20	13.80	13.50	144.	12.50	12.30	12.70	12.50

RAW SCORES OF NEW AGILITY TEST OF 14 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
145.	10.90	10.40	11.00	10. 77	200.	10.30	10.40	10.50	10.40	255.	13.60	13.20	14.00	13.60
146.	11.90	11.90	12.30	12.03	201.	12.80	12.70	12.90	12.80	256.	15.00	15.10	15.10	15.07
147.	14.80	14.50	15.00	14.77	202.	14.80	14.90	15.20	14.97	257.	11.40	11.00	11.70	11.37
148.	14.00	14.40	14.10	14.17	203.	12.00	12.30	12.10	12.13	258.	12.50	12.70	12.70	12.63
149.	13.00	13.10	13.10	13.07	204.	13.90	13.60	14.00	13.83	259.	15.00	15.30	15.10	15.13
150.	13.60	14.00	13.60	13.73	205.	14.40	14.60	14.60	14.53	260.	11.30	11.60	11.60	11.50
151.	12.50	12.90	12.80	12.73	206.	11.00	10.70	11.40	11.03	261.	11.00	11.50	11.30	11.27
152.	12.20	12.70	12.20	12.37	207.	10.50	10.20	10.60	10.43	262.	14.70	15.00	15.10	14.93
153.	11.00	10.70	11.20	10.97	208.	12.30	11.90	12.50	12.23	263.	11.20	11.00	11.40	11.20
154.	13.60	13.90	13.60	13.70	209.	13.40	13.60	13.70	13.57	264.	13.10	13.60	13.30	13.33
155.	13.50	13.60	13.50	13.53	210.	11.50	11.50	11.70	11.57	265.	11.50	11.60	11.50	11.53
156.	11.60	11.40	12.00	11.67	211.	13.00	13.20	13.30	13.17	266.	13.40	13.10	13.40	13.30
157.	11.80	11.70	12.00	11.83	212.	11.30	11.30	11.80	11.47	267.	10.60	10.20	10.60	10.47
158.	12.90	12.60	13.20	12.90	213.	11.90	12.10	12.30	12.10	268.	14.70	14.70	14.70	14.70
159.	12.40	12.20	12.70	12.43	214.	15.00	14.50	15.20	14.90	269.	14.80	15.20	15.00	15.00
160.	10.60	10.40	10.90	10.63	215.	14.80	14.80	15.20	14.93	270.	13.80	14.10	13.90	13.93
161.	14.10	14.40	14.60	14.37	216.	12.60	12.30	12.80	12.57	271.	12.70	13.00	13.00	12.90
162.	10.80	11.10	10.90	10.93	217.	12.80	12.80	13.00	12.87	272.	12.80	13.00	12.90	12.90
163.	13.30	13.10	13.70	13.37	218.	14.10	13.90	14.60	14.20	273.	14.10	14.40	14.60	14.37
164.	10.80	10.40	10.90	10.70	219.	10.40	10.00	10.50	10.30	274.	10.90	11.40	11.10	11.13
165.	10.40	10.00	10.50	10.30	220.	10.50	10.90	10.60	10.67	275.	14.20	13.70	14.70	14.20
166.	11.70	11.50	12.20	11.80	221.	10.30	10.50	10.50	10.43	276.	10.40	10.40	10.70	10.50
167.	14.30	14.70	14.30	14.43	222.	14.70	14.30	14.90	14.63	277.	10.80	10.50	11.10	10.80
168.	12.00	11.70	12.40	12.03	223.	13.30	13.30	13.60	13.40	278.	10.60	10.60	10.60	10.60
169.	14.60	14.10	15.10	14.60	224.	13.60	13.50	14.00	13.70	279.	13.10	12.60	13.10	12.93
170.	14.80	14.70	15.30	14.93	225.	10.70	10.70	10.70	10.70	280.	12.20	12.50	12.30	12.33
171.	11.60	11.60	11.70	11.63	226.	12.40	12.80	12.80	12.67	281.	12.90	12.90	13.00	12.93
172.	14.30	13.90	14.50	14.23	227.	14.20	13.90	14.20	14.10	282.	14.00	14.20	14.10	14.10
173.	14.60	14.20	14.60	14.47	228.	11.00	10.90	11.20	11.03	283.	11.80	11.70	12.10	11.87
174.	13.10	13.20	13.30	13.20	229.	10.40	10.00	10.70	10.37	284.	11.80	11.50	12.00	11.77
175.	14.40	14.50	14.90	14.60	230.	14.40	14.00	14.70	14.37	285.	11.40	11.10	11.70	11.40
176.	10.90	10.60	10.90	10.80	231.	13.40	13.30	13.70	13.47	286.	12.60	12.30	12.80	12.57
177.	11.20	10.90	11.40	11.17	232.	10.40	10.20	10.80	10.47	287.	14.00	13.50	14.30	13.93
178.	13.90	13.60	14.00	13.83	233.	14.10	13.80	14.10	14.00	288.	14.00	14.00	14.30	14.10
179.	13.60	13.40	13.60	13.53	234.	13.70	13.40	14.10	13.73	289.	10.60	10.10	10.60	10.43
180.	11.60	12.00	11.70	11.77	235.	10.40	10.90	10.80	10.70	290.	13.00	12.90	13.10	13.00
181.	11.90	12.00	12.30	12.07	236.	11.40	11.20	11.50	11.37	291.	11.40	10.90	11.50	11.27
182.	12.40	12.00	12.50	12.30	237.	11.20	11.60	11.50	11.43	292.	14.40	14.20	14.60	14.40
183.	13.00	13.40	13.30	13.23	238.	13.00	13.40	13.20	13.20	293.	10.70	10.50	11.10	10.77
184.	14.10	14.20	14.50	14.27	239.	14.30	14.20	14.50	14.33	294.	10.40	10.10	10.50	10.33
185.	14.60	14.70	15.00	14.77	240.	12.70	12.20	13.00	12.63	295.	11.20	10.80	11.30	11.10
186.	13.70	13.90	14.10	13.90	241.	10.30	10.10	10.70	10.37	296.	14.20	14.10	14.30	14.20
187.	10.30	10.30	10.80	10.47	242.	11.50	11.40	11.70	11.53	297.	12.20	11.90	12.30	12.13
188.	10.50	10.70	10.70	10.63	243.	11.90	12.30	12.40	12.20	298.	11.10	11.50	11.40	11.33
189.	12.60	12.70	13.10	12.80	244.	11.50	11.90	11.70	11.70	299.	11.60	12.10	12.00	11.90
190.	14.10	13.60	14.50	14.07	245.	13.10	12.90	13.40	13.13	300.	12.50	12.90	12.60	12.67
191.	11.70	11.90	11.90	11.83	246.	11.30	11.30	11.60	11.40	301.	10.80	11.20	11.10	11.03
192.	14.00	14.50	14.10	14.20	247.	14.40	14.70	14.40	14.50	302.	13.00	12.70	13.30	13.00
193.	10.90	11.10	11.10	11.03	248.	13.30	13.60	13.80	13.57	303.	11.80	12.10	11.90	11.93
194.	10.90	10.40	11.20	10.83	249.	13.00	13.40	13.50	13.30	304.	13.40	13.10	13.60	13.37
195.	14.90	14.90	15.20	15.00	250.	12.00	11.70	12.00	11.90	305.	13.00	13.30	13.30	13.20
196.	10.30	10.40	10.70	10.47	251.	12.90	12.70	13.00	12.87	306.	11.90	11.50	12.20	11.87
197.	13.40	13.90	13.70	13.67	252.	14.70	14.90	14.80	14.80	307.	14.00	13.70	14.30	14.00
198.	14.90	14.50	14.90	14.77	253.	14.70	14.20	14.80	14.57	308.	11.20	11.70	11.40	11.43
199.	11.70	11.70	12.10	11.83	254.	14.40	14.30	14.50	14.40	309.	14.90	14.80	14.90	14.87

RAW SCORES OF NEW AGILITY TEST OF 14 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
310	12. 30	12. 50	12. 70	12.50	365	14. 40	14. 50	14. 80	14.57	420	11. 60	11. 40	11. 80	11.60
311.	12.30	11.90	12.80	12.33	366.	14.30	14.30	14.40	14.33	421.	12.30	12.80	12.40	12.50
312.	14.60	14.60	14.90	14.70	367.	13.00	13.40	13.10	13.17	422.	11.20	11.60	11.60	11.47
313.	10.30	10.20	10.70	10.40	368.	14.20	14.50	14.70	14.47	423.	12.60	12.90	12.90	12.80
314.	12.60	12.20	13.00	12.60	369.	10.80	10.80	10.90	10.83	424.	14.00	14.30	14.10	14.13
315.	11.00	11.10	11.50	11.20	370.	11.50	11.80	11.60	11.63	425.	13.80	13.70	13.80	13.77
316.	14.70	14.60	14.80	14.70	371.	11.50	11.50	11.80	11.60	426.	10.90	10.80	11.40	11.03
317.	10.30	10.70	10.60	10.53	372.	12.10	11.80	12.20	12.03	427.	11.60	11.80	11.90	11.77
318.	13.80	13.70	13.90	13.80	373.	13.70	13.40	13.70	13.60	428.	12.10	12.10	12.20	12.13
319.	11.00	11.30	11.20	11.17	374.	11.70	11.20	11.90	11.60	429.	13.70	13.80	13.70	13.73
320.	11.60	11.20	11.70	11.50	375.	12.90	13.20	13.00	13.03	430.	13.30	13.30	13.60	13.40
321.	10.90	10.90	11.30	11.03	376.	14.40	14.50	14.60	14.50	431.	14.20	14.00	14.70	14.30
322.	11.20	11.50	11.50	11.40	377.	12.50	12.60	12.70	12.60	432.	11.50	11.70	11.70	11.63
323.	11.90	12.40	12.00	12.10	378.	12.10	12.40	12.50	12.33	433.	14.50	14.70	14.90	14.70
324.	13.80	13.80	14.20	13.93	379.	10.60	10.10	10.80	10.50	434.	11.60	12.10	11.70	11.80
325.	14.30	14.30	14.70	14.43	380.	11.70	11.30	12.10	11.70	435.	10.30	10.40	10.40	10.37
326.	10.80	10.70	10.90	10.80	381.	10.40	10.70	10.60	10.57	436.	10.40	10.70	10.60	10.57
327.	14.80	14.60	14.90	14.77	382.	13.70	13.60	14.10	13.80	437.	10.70	10.60	10.70	10.67
328.	14.60	14.60	15.00	14.73	383.	14.80	14.90	15.10	14.93	438.	10.70	10.80	10.90	10.80
329.	14.10	13.60	14.20	13.97	384.	14.50	14.10	14.60	14.40	439.	12.50	12.50	12.60	12.53
330.	13.50	13.50	13.80	13.60	385.	10.70	11.00	10.90	10.87	440.	13.80	13.90	13.90	13.87
331.	12.30	12.70	12.50	12.50	386.	13.10	13.00	13.20	13.10	441.	11.20	11.50	11.40	11.37
332.	12.80	12.90	13.30	13.00	387.	11.70	11.70	11.80	11.73	442.	11.50	11.70	11.80	11.67
333.	13.80	13.60	14.00	13.80	388.	14.00	13.60	14.50	14.03	443.	12.80	13.10	12.90	12.93
334.	15.00	14.60	15.20	14.93	389.	15.00	15.00	15.00	15.00	444.	11.80	12.10	12.10	12.00
335.	13.00	12.60	13.30	12.97	390.	14.00	13.80	14.50	14.10	445.	11.10	11.10	11.30	11.17
336.	10.40	10.50	10.90	10.60	391.	14.10	14.20	14.40	14.23	446.	10.30	10.00	10.70	10.33
337.	14.20	14.40	14.70	14.43	392.	11.30	11.00	11.60	11.30	447.	11.70	11.50	11.90	11.70
338.	11.40	11.80	11.40	11.53	393.	12.30	11.90	12.80	12.33	448.	10.70	10.40	11.00	10.70
339.	10.30	10.50	10.40	10.40	394.	11.50	11.70	11.60	11.60	449.	11.90	11.50	12.10	11.83
340.	12.30	12.10	12.60	12.33	395.	13.30	13.30	13.70	13.43	450.	14.60	14.70	14.90	14.73
341.	11.00	11.40	11.00	11.13	396.	14.20	14.00	14.20	14.13	451.	10.70	10.60	11.20	10.83
342.	11.20	11.30	11.30	11.27	397.	12.70	12.40	12.90	12.67	452.	13.30	13.00	13.70	13.33
343.	13.40	13.10	13.70	13.40	398.	10.70	10.40	11.20	10.77	453.	14.20	14.50	14.60	14.43
344.	11.90	12.00	11.90	11.93	399.	12.90	12.50	13.30	12.90	454.	11.20	11.60	11.40	11.40
345.	12.50	12.90	12.80	12.73	400.	11.10	10.90	11.60	11.20	455.	10.40	9.90	10.60	10.30
346.	14.50	14.80	14.70	14.67	401.	14.80	14.70	15.20	14.90	456.	14.00	14.00	14.40	14.13
347.	14.10	14.60	14.40	14.37	402.	14.10	14.20	14.50	14.27	457.	12.20	12.30	12.30	12.27
348.	12.00	12.10	12.00	12.03	403.	11.80	11.90	12.30	12.00	458.	13.40	13.20	13.70	13.43
349.	11.50	11.90	12.00	11.80	404.	13.60	13.40	13.70	13.57	459.	14.90	14.70	15.00	14.87
350.	12.70	12.60	13.00	12.77	405.	13.50	13.70	13.70	13.63	460.	10.60	10.30	10.90	10.60
351.	10.80	10.60	11.30	10.90	406.	13.30	13.70	13.40	13.47	461.	12.70	12.50	12.90	12.70
352.	13.10	13.30	13.10	13.17	407.	12.20	12.50	12.50	12.40	462.	12.00	11.80	12.40	12.07
353.	14.90	15.10	14.90	14.97	408.	13.20	13.20	13.20	13.20	463.	13.40	13.50	13.40	13.43
354.	13.80	14.10	14.00	13.97	409.	12.80	13.10	12.90	12.93	464.	11.40	11.80	11.70	11.63
355.	10.80	10.60	11.10	10.83	410.	12.00	12.30	12.30	12.20	465.	12.40	12.70	12.70	12.60
356.	12.60	12.50	13.00	12.70	411.	13.70	14.10	14.00	13.93	466.	10.70	10.70	10.90	10.77
357.	12.50	12.60	12.70	12.60	412.	12.20	12.70	12.60	12.50	467.	10.50	10.70	10.70	10.63
358.	10.50	10.70	10.70	10.63	413.	11.80	12.00	12.20	12.00	468.	10.50	10.10	10.80	10.47
359.	13.70	13.50	13.80	13.67	414.	11.40	11.60	11.60	11.53	469.	14.90	15.30	15.30	15.17
360.	10.20	10.50	10.30	10.33	415.	14.60	15.10	15.00	14.90	470.	13.20	13.20	13.40	13.27
361.	14.90	14.40	15.30	14.87	416.	11.90	11.70	12.30	11.97	471.	10.50	10.10	10.70	10.43
362.	13.00	13.40	13.30	13.23	417.	10.40	9.90	10.70	10.33	472.	12.30	11.80	12.50	12.20
363.	11.60	11.80	12.00	11.80	418.	11.10	10.80	11.50	11.13	473.	10.30	10.00	10.70	10.33
364.	13.90	13.50	14.40	13.93	419.	13.60	13.80	13.90	13.77	474.	12.50	12.30	12.60	12.47

RAW SCORES OF NEW AGILITY TEST OF 14 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
475.	11.70	11.90	12.20	11.93	530.	11.90	12.30	12.20	12.13	585.	11.80	11.70	12.10	11.87
476.	13.70	14.10	14.10	13.97	531.	12.40	12.40	12.70	12.50	586.	14.50	15.00	14.70	14.73
477.	13.40	13.50	13.80	13.57	532.	13.90	14.10	14.00	14.00	587.	10.30	10.30	10.60	10.40
478.	14.70	15.00	15.10	14.93	533.	11.50	11.10	11.70	11.43	588.	12.20	12.70	12.60	12.50
479.	12.20	12.30	12.50	12.33	534.	12.10	12.00	12.60	12.23	589.	11.00	10.90	11.40	11.10
480.	11.80	11.90	12.10	11.93	535.	14.50	14.90	14.70	14.70	590.	11.80	12.10	12.20	12.03
481.	12.80	12.50	13.10	12.80	536.	10.40	10.00	10.70	10.37	591.	11.60	11.40	11.90	11.63
482.	11.00	10.50	11.30	10.93	537.	10.80	10.30	11.00	10.70	592.	10.40	10.10	10.50	10.33
483.	11.50	11.40	11.60	11.50	538.	12.40	12.20	12.50	12.37	593.	12.80	12.30	13.00	12.70
484.	12.60	12.80	12.90	12.77	539.	14.30	14.70	14.60	14.53	594.	14.20	14.60	14.40	14.40
485.	11.20	11.00	11.50	11.23	540.	12.80	12.70	12.90	12.80	595.	13.80	14.20	13.80	13.93
486.	13.60	13.90	14.00	13.83	541.	12.80	13.00	13.20	13.00	596.	10.60	10.60	11.10	10.77
487.	13.70	14.00	13.80	13.83	542.	14.20	14.50	14.20	14.30	597.	14.20	14.10	14.50	14.27
488.	12.30	12.60	12.50	12.47	543.	14.30	13.90	14.50	14.23	598.	11.30	11.50	11.80	11.53
489.	14.80	15.10	15.00	14.97	544.	13.90	13.70	13.90	13.83	599.	10.90	11.30	11.10	11.10
490.	11.00	11.00	11.50	11.17	545.	13.60	13.90	14.00	13.83	600.	13.70	13.60	13.90	13.73
491.	12.70	12.50	13.10	12.77	546.	14.70	14.30	14.70	14.57	601.	10.80	10.80	11.20	10.93
492.	13.00	12.70	13.30	13.00	547.	10.40	10.40	10.80	10.53	602.	13.00	13.40	13.40	13.27
493.	14.60	14.80	15.00	14.80	548.	12.00	11.70	12.30	12.00	603.	12.90	12.80	12.90	12.87
494.	11.20	11.10	11.30	11.20	549.	10.40	10.50	10.90	10.60	604.	10.70	10.90	11.00	10.87
495.	11.90	12.00	12.20	12.03	550.	14.10	14.50	14.20	14.27	605.	11.20	11.70	11.20	11.37
496.	11.40	11.30	11.80	11.50	551.	13.60	13.40	14.00	13.67	606.	11.00	11.30	11.40	11.23
497.	11.00	10.80	11.30	11.03	552.	11.10	11.50	11.20	11.27	607.	12.60	12.50	12.90	12.67
498.	13.40	13.40	13.80	13.53	553.	14.50	14.50	14.90	14.63	608.	14.50	14.90	14.80	14.73
499.	11.60	11.90	11.90	11.80	554.	14.50	14.10	14.70	14.43	609.	14.10	14.10	14.50	14.23
500.	12.20	12.50	12.70	12.47	555.	11.50	11.80	11.60	11.63	610.	13.60	13.70	13.90	13.73
501.	11.90	12.40	12.10	12.13	556.	13.00	12.70	13.20	12.97	611.	11.50	11.50	11.90	11.63
502.	10.60	10.10	11.10	10.60	557.	13.70	13.80	13.80	13.77	612.	10.90	11.30	11.00	11.07
503.	12.30	12.60	12.80	12.57	558.	13.90	13.70	14.00	13.87	613.	11.10	11.00	11.30	11.13
504.	14.10	14.60	14.10	14.27	559.	12.10	11.70	12.20	12.00	614.	14.00	13.70	14.30	14.00
505.	12.50	12.80	12.80	12.70	560.	15.00	14.90	15.40	15.10	615.	13.40	13.20	13.70	13.43
506.	12.20	11.70	12.20	12.03	561.	11.00	11.40	11.40	11.27	616.	11.80	11.90	12.10	11.93
507.	14.20	14.10	14.20	14.17	562.	13.20	13.10	13.50	13.27	617.	14.00	14.00	14.20	14.07
508.	11.30	11.70	11.60	11.53	563.	11.90	12.00	12.30	12.07	618.	12.80	12.60	13.00	12.80
509.	13.90	13.90	14.30	14.03	564.	13.90	13.50	14.00	13.80	619.	13.80	13.70	14.10	13.87
510.	14.60	14.80	14.60	14.67	565.	13.80	13.90	13.80	13.83	620.	13.40	13.20	13.80	13.47
511.	12.60	12.50	12.70	12.60	566.	12.50	13.00	12.80	12.77	621.	12.00	11.60	12.20	11.93
512.	11.00	11.30	11.30	11.20	567.	13.60	13.40	13.60	13.53	622.	13.10	13.10	13.40	13.20
513.	10.90	11.30	11.00	11.07	568.	11.70	11.70	11.70	11.70	623.	11.10	11.10	11.30	11.17
514.	12.00	12.20	12.00	12.07	569.	12.60	12.60	13.00	12.73	624.	13.90	13.60	14.00	13.83
515.	14.90	14.50	15.20	14.87	570.	10.40	10.90	10.90	10.73	625.	11.00	11.30	11.30	11.20
516.	12.70	12.70	12.80	12.73	571.	11.00	11.30	11.30	11.20	626.	12.20	12.50	12.60	12.43
517.	13.10	12.80	13.30	13.07	572.	11.50	11.30	11.70	11.50	627.	12.30	12.00	12.50	12.27
518.	13.10	13.40	13.60	13.37	573.	10.20	10.20	10.60	10.33	628.	11.90	12.00	12.10	12.00
519.	14.30	14.30	14.60	14.40	574.	13.10	13.00	13.60	13.23	629.	12.70	12.90	12.90	12.83
520.	14.30	14.60	14.70	14.53	575.	13.90	14.00	13.90	13.93	630.	12.80	12.90	13.00	12.90
521.	14.80	14.70	15.20	14.90	576.	11.60	12.00	11.70	11.77	631.	12.60	12.90	12.80	12.77
522.	10.80	10.40	10.90	10.70	577.	13.80	13.60	14.30	13.90	632.	12.50	12.80	12.90	12.73
523.	13.50	13.70	13.50	13.57	578.	11.40	11.50	11.80	11.57	633.	12.80	12.30	13.20	12.77
524.	12.70	13.00	13.10	12.93	579.	11.20	11.30	11.30	11.27	634.	12.30	12.10	12.30	12.23
525.	14.90	15.10	15.10	15.03	580.	13.50	13.90	13.60	13.67	635.	14.10	14.40	14.60	14.37
526.	10.40	10.60	10.50	10.50	581.	12.90	13.20	13.00	13.03	636.	13.50	13.50	13.90	13.63
527.	11.00	11.40	11.10	11.17	582.	11.40	11.70	11.70	11.60	637.	11.00	11.00	11.00	11.00
528.	12.30	12.30	12.80	12.47	583.	12.80	12.30	13.10	12.73	638.	12.10	12.60	12.50	12.40
529.	12.90	12.70	13.30	12.97	584.	13.30	13.50	13.30	13.37	639.	11.90	12.00	12.10	12.00

RAW SCORES OF NEW AGILITY TEST OF 14 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
640.	13.90	14.10	13.90	13.97	695.	10.60	10.90	10.90	10.80	750.	10.60	10.50	11.10	10.73
641.	12.20	11.90	12.70	12.27	696.	13.00	13.40	13.10	13.17	751.	10.50	10.70	10.50	10.57
642.	13.90	13.40	14.10	13.80	697.	14.30	14.40	14.40	14.37	752.	12.00	11.70	12.10	11.93
643.	10.30	10.20	10.40	10.30	698.	14.20	13.90	14.60	14.23	753.	10.80	11.00	11.00	10.93
644.	12.20	12.50	12.50	12.40	699.	10.30	10.10	10.50	10.30	754.	12.90	13.40	13.30	13.20
645.	14.80	14.90	14.90	14.87	700.	13.80	14.20	14.10	14.03	755.	13.40	13.70	13.80	13.63
646.	11.90	11.60	12.00	11.83	701.	12.40	12.10	12.60	12.37	756.	11.20	11.20	11.60	11.33
647.	11.80	12.10	12.00	11.97	702.	12.70	12.20	13.00	12.63	757.	11.20	11.60	11.30	11.37
648.	12.30	11.90	12.50	12.23	703.	12.70	13.00	13.00	12.90	758.	13.60	13.70	13.90	13.73
649.	14.00	13.90	14.50	14.13	704.	14.10	13.70	14.50	14.10	759.	13.70	14.00	14.00	13.90
650.	11.30	11.10	11.40	11.27	705.	12.00	12.10	12.20	12.10	760.	14.30	14.40	14.70	14.47
651.	11.30	11.70	11.70	11.57	706.	11.10	11.40	11.50	11.33	761.	13.50	13.70	14.00	13.73
652.	10.20	10.40	10.20	10.27	707.	13.50	13.80	13.90	13.73	762.	12.50	13.00	12.80	12.77
653.	11.80	12.30	12.00	12.03	708.	14.60	14.30	14.70	14.53	763.	10.40	10.80	10.50	10.57
654.	12.70	12.50	12.90	12.70	709.	10.50	10.80	10.70	10.67	764.	13.50	13.00	13.60	13.37
655.	11.70	11.40	12.00	11.70	710.	11.20	11.70	11.30	11.40	765.	11.10	10.60	11.30	11.00
656.	11.60	11.20	12.00	11.60	711.	12.50	12.60	12.90	12.67	766.	11.20	11.00	11.60	11.27
657.	13.20	13.50	13.70	13.47	712.	12.40	12.90	12.70	12.67	767.	12.60	12.30	13.00	12.63
658.	14.00	14.00	14.40	14.13	713.	13.10	12.70	13.50	13.10	768.	13.60	13.40	13.80	13.60
659.	11.10	11.40	11.10	11.20	714.	12.00	12.00	12.00	12.00	769.	14.50	14.80	14.80	14.70
660.	11.40	11.30	11.60	11.43	715.	12.90	12.40	13.00	12.77	770.	14.00	13.70	14.40	14.03
661.	14.40	14.80	14.80	14.67	716.	12.80	12.40	13.10	12.77	771.	12.30	12.40	12.40	12.37
662.	11.90	11.90	12.30	12.03	717.	13.70	13.70	13.80	13.73	772.	12.40	12.30	12.40	12.37
663.	10.50	10.10	10.60	10.40	718.	14.30	14.40	14.50	14.40	773.	10.70	10.50	11.00	10.73
664.	13.60	13.10	13.90	13.53	719.	12.50	12.10	12.60	12.40	774.	10.50	10.30	10.60	10.47
665.	11.50	11.60	11.60	11.57	720.	12.30	12.80	12.70	12.60	775.	11.30	11.40	11.40	11.37
666.	10.50	10.50	10.90	10.63	721.	10.50	10.20	10.80	10.50	776.	14.90	15.00	15.20	15.03
667.	13.60	13.70	13.80	13.70	722	12.40	12.80	12.70	12.63	777.	14.90	14.50	14.90	14.77
668.	13.50	13.80	13.90	13.73	723.	10.30	10.30	10.60	10.40	778.	13.00	12.90	13.10	13.00
669.	14.50	14.30	14.60	14.47	724.	12.70	12.60	13.00	12.77	779.	11.40	11.70	11.50	11.53
670.	11.20	10.90	11.70	11.27	725.	13.50	13.40	13.90	13.60	780.	11.50	11.90	11.50	11.63
671.	13.10	12.90	13.20	13.07	726.	10.30	10.10	10.70	10.37	781.	13.00	12.70	13.40	13.03
672.	10.30	10.60	10.70	10.53	727.	14.50	14.40	14.90	14.60	782.	13.00	13.40	13.10	13.17
673.	10.70	10.90	10.80	10.80	728.	11.40	11.80	11.40	11.53	783.	10.30	10.70	10.30	10.43
674.	14.00	13.70	14.10	13.93	729.	14.10	13.90	14.50	14.17	784.	13.80	13.80	14.00	13.87
675.	11.30	11.70	11.80	11.60	730.	11.00	11.00	11.50	11.17	785.	10.80	10.90	11.10	10.93
676.	10.70	10.40	11.10	10.73	731.	12.80	13.10	13.30	13.07	786.	10.60	10.30	11.00	10.63
677.	14.60	14.40	14.70	14.57	732.	12.70	12.30	12.80	12.60	787.	12.70	12.60	12.70	12.67
678.	14.40	14.60	14.50	14.50	733.	14.40	14.00	14.90	14.43	788.	10.90	10.90	11.40	11.07
679.	14.20	13.80	14.40	14.13	734	11.20	11.30	11.60	11.37	789.	12.60	12.40	12.80	12.60
680.	10.60	10.90	10.60	10.70	735.	12.10	12.30	12.50	12.30	790.	12.60	12.80	12.60	12.67
681.	14.50	14.90	14.90	14.77	736.	11.80	12.10	12.00	11.97	791.	14.50	14.60	14.70	14.60
682.	12.00	12.50	12.30	12.27	737.	14.00	14.10	14.20	14.10	792.	13.00	12.70	13.20	12.97
683.	11.30	11.10	11.80	11.40	738.	12.10	12.10	12.20	12.13	793.	10.20	10.10	10.30	10.20
684.	10.60	10.40	10.90	10.63	739.	10.90	10.50	11.40	10.93	794.	10.90	11.00	11.30	11.07
685.	10.70	11.10	11.20	11.00	740.	12.50	12.30	12.50	12.43	795.	11.70	11.30	12.10	11.70
686.	14.80	15.20	15.20	15.07	741.	12.30	12.30	12.80	12.47	796.	14.40	14.00	14.40	14.27
687.	15.00	15.20	15.10	15.10	742.	11.70	11.90	11.80	11.80	797.	12.10	11.80	12.50	12.13
688.	14.10	13.80	14.40	14.10	743.	12.60	12.60	13.00	12.73	798.	12.20	12.00	12.50	12.23
689.	12.20	12.60	12.40	12.40	744.	13.60	13.90	13.90	13.80	799.	10.90	11.30	11.10	11.10
690.	11.80	11.60	11.90	11.77	745.	12.40	12.80	12.40	12.53	800.	10.70	11.10	11.10	10.97
691.	14.00	14.20	14.30	14.17	746.	13.30	13.20	13.50	13.33	801.	11.10	11.10	11.20	11.13
692.	12.20	12.10	12.70	12.33	747.	14.80	15.20	15.20	15.07	802.	13.90	13.90	14.00	13.93
693.	14.60	14.90	15.00	14.83	748.	10.40	10.80	10.90	10.70	803.	11.60	11.40	12.00	11.67
694.	12.80	12.40	13.10	12.77	749.	11.20	10.90	11.60	11.23	804.	12.60	12.10	12.80	12.50

RAW SCORES OF NEW AGILITY TEST OF 14 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
805.	10.40	10.30	10.60	10.43	827.	10.80	11.00	11.00	10.93	849.	10.50	10.80	11.00	10.77
806.	11.90	11.50	12.30	11.90	828.	13.80	14.20	13.90	13.97	850.	14.70	14.40	15.00	14.70
807.	14.50	14.60	14.60	14.57	829.	12.90	13.00	13.20	13.03	851.	14.60	14.80	15.00	14.80
808.	12.30	12.80	12.70	12.60	830.	13.70	14.20	14.10	14.00	852.	12.00	11.90	12.30	12.07
809.	13.60	14.10	13.90	13.87	831.	12.90	13.30	13.40	13.20	853.	12.90	13.30	13.10	13.10
810.	13.10	13.10	13.10	13.10	832.	13.50	13.60	13.60	13.57	854.	10.20	10.60	10.30	10.37
811.	11.10	10.60	11.50	11.07	833.	11.20	11.70	11.60	11.50	855.	11.70	11.80	11.90	11.80
812.	14.30	14.50	14.40	14.40	834.	14.00	14.00	14.20	14.07	856.	14.90	14.50	15.10	14.83
813.	14.50	14.20	14.70	14.47	835.	12.70	12.40	13.10	12.73	857.	10.60	11.00	10.80	10.80
814.	11.30	11.70	11.60	11.53	836.	11.60	11.10	11.80	11.50	858.	11.50	11.10	11.50	11.37
815.	13.30	13.70	13.70	13.57	837.	11.80	11.90	12.20	11.97	859.	11.50	11.40	11.70	11.53
816.	13.60	13.20	13.70	13.50	838.	10.80	10.60	11.20	10.87	860.	14.90	14.70	15.30	14.97
817.	13.10	13.50	13.50	13.37	839.	14.20	13.70	14.60	14.17	861.	13.60	13.60	13.70	13.63
818.	12.20	12.40	12.60	12.40	840.	11.40	11.70	11.70	11.60	862.	10.60	10.80	11.00	10.80
819.	11.80	12.30	12.20	12.10	841.	11.10	11.50	11.30	11.30	863.	10.60	11.00	10.90	10.83
820.	14.90	14.90	15.10	14.97	842.	10.70	10.50	11.10	10.77	864.	13.10	13.00	13.50	13.20
821.	13.20	13.50	13.30	13.33	843.	13.00	12.50	13.20	12.90	865.	12.60	12.90	12.70	12.73
822.	11.60	11.90	11.90	11.80	844.	12.30	12.60	12.50	12.47	866.	11.20	10.80	11.60	11.20
823.	13.40	13.30	13.80	13.50	845.	11.00	10.60	11.50	11.03	867.	14.50	14.90	14.50	14.63
824.	13.00	13.30	13.20	13.17	846.	14.70	14.80	15.20	14.90	868.	12.40	11.90	12.70	12.33
825.	11.60	11.30	11.80	11.57	847.	11.20	11.70	11.20	11.37					
826.	13.20	12.90	13.40	13.17	848.	12.30	12.00	12.50	12.27					

APPENDIX - V

RAW SCORES OF NEW AGILITY TEST OF 15 YEAR OLD BOYS

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
1.	10.70	11.10	10.70	10.83	49.	13.30	13.50	13.50	13.43	97.	13.80	13.80	14.00	13.87
2.	10.40	10.50	10.80	10.57	50.	12.30	12.50	12.70	12.50	98.	11.20	10.80	11.30	11.10
3.	11.80	12.10	12.20	12.03	51.	12.80	13.00	13.30	13.03	99.	11.70	12.10	11.80	11.87
4.	12.40	12.00	12.50	12.30	52.	11.20	11.60	11.50	11.43	100.	12.00	12.10	12.30	12.13
5.	13.30	13.00	13.70	13.33	53.	11.10	11.10	11.20	11.13	101.	13.40	13.30	13.60	13.43
6.	10.10	10.00	10.30	10.13	54.	10.60	10.70	10.90	10.73	102.	10.50	10.40	10.80	10.57
7.	11.00	11.00	11.10	11.03	55.	13.60	13.10	14.00	13.57	103.	12.10	11.60	12.30	12.00
8.	11.00	11.00	11.40	11.13	56.	11.70	11.70	11.80	11.73	104.	12.30	11.80	12.40	12.17
9.	13.60	13.90	14.00	13.83	57.	13.50	13.90	13.50	13.63	105.	12.00	12.20	12.30	12.17
10.	10.90	10.90	11.10	10.97	58.	13.90	13.80	14.00	13.90	106.	12.50	12.40	12.80	12.57
11.	11.70	11.70	11.80	11.73	59.	10.50	10.80	10.60	10.63	107.	13.10	13.00	13.60	13.23
12.	11.90	11.50	12.00	11.80	60.	12.90	13.00	12.90	12.93	108.	10.10	9.90	10.50	10.17
13.	12.00	12.10	12.20	12.10	61.	12.50	12.40	12.60	12.50	109.	13.80	13.50	14.30	13.87
14.	13.00	12.80	13.50	13.10	62.	10.70	11.10	10.80	10.87	110.	11.50	11.80	11.90	11.73
15.	10.20	10.50	10.50	10.40	63.	13.10	12.80	13.20	13.03	111.	10.70	10.30	10.90	10.63
16.	10.10	9.70	10.30	10.03	64.	12.70	12.60	12.90	12.73	112.	11.20	11.20	11.50	11.30
17.	13.60	13.30	13.60	13.50	65.	11.40	11.80	11.80	11.67	113.	13.60	14.00	14.10	13.90
18.	11.80	12.20	12.00	12.00	66.	12.80	12.50	12.90	12.73	114.	12.50	12.90	12.90	12.77
19.	12.70	12.70	13.00	12.80	67.	13.80	13.50	14.10	13.80	115.	12.30	12.70	12.40	12.47
20.	13.80	14.00	13.90	13.90	68.	11.80	11.30	12.20	11.77	116.	10.20	10.40	10.40	10.33
21.	10.20	10.50	10.30	10.33	69.	11.00	11.00	11.20	11.07	117.	14.00	14.00	14.50	14.17
22.	12.10	12.10	12.30	12.17	70.	13.10	12.70	13.10	12.97	118.	13.40	13.30	13.70	13.47
23.	10.00	9.90	10.40	10.10	71.	10.30	10.20	10.60	10.37	119.	11.40	11.80	11.80	11.67
24.	12.60	12.30	12.80	12.57	72.	10.40	10.20	10.50	10.37	120.	10.60	10.30	10.90	10.60
25.	11.30	11.70	11.50	11.50	73.	12.50	12.60	12.60	12.57	121.	13.00	12.60	13.20	12.93
26.	10.50	10.80	10.60	10.63	74.	12.00	11.70	12.30	12.00	122.	11.40	11.60	11.50	11.50
27.	13.10	13.40	13.30	13.27	75.	13.20	13.40	13.40	13.33	123.	11.20	10.70	11.20	11.03
28.	11.10	11.00	11.20	11.10	76.	13.20	13.60	13.60	13.47	124.	10.30	10.00	10.50	10.27
29.	12.20	11.80	12.60	12.20	77.	13.60	13.70	14.00	13.77	125.	11.90	11.50	12.30	11.90
30.	11.80	11.90	12.10	11.93	78.	13.70	14.00	14.10	13.93	126.	11.30	11.40	11.80	11.50
31.	13.70	14.10	13.70	13.83	79.	10.40	10.20	10.70	10.43	127.	13.00	12.90	13.50	13.13
32.	10.90	11.10	11.40	11.13	80.	11.70	12.20	12.10	12.00	128.	11.70	11.50	12.20	11.80
33.	11.10	10.90	11.20	11.07	81.	13.90	14.20	14.00	14.03	129.	12.40	12.80	12.80	12.67
34.	13.10	13.50	13.20	13.27	82.	10.70	10.30	10.70	10.57	130.	13.90	13.50	13.90	13.77
35.	13.60	14.00	13.80	13.80	83.	13.00	13.10	13.40	13.17	131.	10.20	10.60	10.60	10.47
36.	10.10	10.00	10.30	10.13	84.	11.80	12.00	12.00	11.93	132.	13.30	13.70	13.50	13.50
37.	11.00	11.40	11.00	11.13	85.	12.30	12.60	12.60	12.50	133.	10.50	10.40	10.60	10.50
38.	10.10	9.70	10.30	10.03	86.	13.90	14.00	14.30	14.07	134.	10.00	9.90	10.10	10.00
39.	11.70	12.00	11.90	11.87	87.	13.60	13.60	13.80	13.67	135.	10.10	10.00	10.20	10.10
40.	11.50	11.90	11.70	11.70	88.	13.50	13.10	13.60	13.40	136.	13.80	13.60	14.20	13.87
41.	11.00	11.30	11.20	11.17	89.	10.70	10.70	11.10	10.83	137.	11.70	11.70	11.90	11.77
42.	12.00	12.20	12.30	12.17	90.	10.90	10.60	11.20	10.90	138.	11.30	11.20	11.70	11.40
43.	11.10	11.50	11.40	11.33	91.	10.10	10.20	10.20	10.17	139.	10.10	10.50	10.50	10.37
44.	12.00	12.50	12.50	12.33	92.	13.10	13.30	13.40	13.27	140.	13.20	13.60	13.60	13.47
45.	10.40	10.40	10.90	10.57	93.	13.70	13.60	13.90	13.73	141.	11.10	11.20	11.60	11.30
46.	12.70	12.30	13.10	12.70	94.	10.60	11.00	10.80	10.80	142.	13.90	14.20	14.00	14.03
47.	11.90	11.80	12.10	11.93	95.	13.80	14.20	14.10	14.03	143.	10.00	9.70	10.30	10.00
48.	12.90	13.10	13.00	13.00	96.	12.70	12.40	13.10	12.73	144.	11.90	11.70	12.10	11.90

RAW SCORES OF NEW AGILITY TEST OF 15 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
145.	10.50	10.10	10.70	10.43	200.	10.10	10.20	10.20	10.17	255.	12.80	12.40	13.20	12.80
146	11.50	11.40	11.80	11.57	201.	12.20	12.00	12.30	12.17	256.	14.00	14.10	14.10	14.07
147.	13.80	13.50	14.00	13.77	202.	13.80	13.90	14.20	13.97	257.	11.00	10.60	11.30	10.97
148.	13.10	13.60	13.30	13.33	203.	11.50	11.80	11.60	11.63	258.	11.90	12.10	12.10	12.03
149.	12.30	12.50	12.40	12.40	204.	13.10	12.80	13.10	13.00	259.	14.00	14.30	14.10	14.13
150.	12.80	13.20	12.90	12.97	205.	13.50	13.60	13.70	13.60	260.	10.90	11.20	11.20	11.10
151.	11.90	12.30	12.20	12.13	206.	10.70	10.40	11.10	10.73	261.	10.70	11.10	11.00	10.93
152	11.70	12.10	11.70	11.83	207.	10.30	9.90	10.30	10.17	262.	13.70	14.10	14.20	14.00
153.	10.60	10.40	10.90	10.63	208.	11.80	11.30	11.90	11.67	263.	10.80	10.60	11.00	10.80
154.	12.90	13.20	12.90	13.00	209.	12.70	12.90	12.90	12.83	264.	12.40	12.90	12.70	12.67
155.	12.80	12.90	12.80	12.83	210.	11.10	11.10	11.20	11.13	265.	11.10	11.20	11.10	11.13
156.	11.20	11.00	11.60	11.27	211.	12.30	12.50	12.60	12.47	266.	12.70	12.30	12.70	12.57
157.	11.30	11.20	11.50	11.33	212.	10.90	10.90	11.40	11.07	267.	10.40	9.90	10.40	10.23
158.	12.30	12.00	12.50	12.27	213.	11.40	11.60	11.80	11.60	268.	13.70	13.80	13.80	13.77
159	11.80	11.60	12.10	11.83	214.	14.00	13.50	14.20	13.90	269.	13.80	14.30	14.10	14.07
160.	10.40	10.10	10.70	10.40	215.	13.80	13.80	14.20	13.93	270.	13.00	13.30	13.10	13.13
161.	13.30	13.50	13.70	13.50	216.	12.00	11.60	12.20	11.93	271.	12.00	12.40	12.40	12.27
162.	10.50	10.80	10.60	10.63	217.	12.10	12.10	12.40	12.20	272.	12.20	12.30	12.20	12.23
163.	12.60	12.40	13.00	12.67	218.	13.30	13.10	13.70	13.37	273.	13.30	13.50	13.70	13.50
164.	10.50	10.10	10.60	10.40	219.	10.20	9.80	10.20	10.07	274.	10.60	11.00	10.80	10.80
165.	10.20	9.80	10.30	10.10	220.	10.20	10.60	10.40	10.40	275.	13.40	12.90	13.80	13.37
166.	11.30	11.10	11.70	11.37	221.	10.10	10.30	10.30	10.23	276.	10.20	10.20	10.40	10.27
167.	13.40	13.80	13.40	13.53	222.	13.70	13.40	14.00	13.70	277.	10.50	10.20	10.80	10.50
168.	11.50	11.20	11.90	11.53	223.	12.60	12.60	12.90	12.70	278.	10.30	10.30	10.30	10.30
169.	13.70	13.20	14.20	13.70	224.	12.90	12.70	13.30	12.97	279.	12.40	12.00	12.40	12.27
170.	13.80	13.70	14.30	13.93	225.	10.40	10.50	10.50	10.47	280.	11.60	12.00	11.70	11.77
171.	11.10	11.20	11.30	11.20	226.	11.80	12.30	12.30	12.13	281.	12.20	12.30	12.30	12.27
172.	13.40	13.00	13.70	13.37	227.	13.30	13.00	13.40	13.23	282.	13.20	13.30	13.30	13.27
173.	13.60	13.30	13.60	13.50	228.	10.70	10.60	10.80	10.70	283.	11.40	11.20	11.60	11.40
174.	12.40	12.50	12.60	12.50	229.	10.20	9.80	10.50	10.17	284.	11.30	11.00	11.50	11.27
175.	13.50	13.60	14.00	13.70	230.	13.50	13.10	13.80	13.47	285.	11.00	10.70	11.30	11.00
176.	10.60	10.30	10.60	10.50	231.	12.70	12.50	12.90	12.70	286.	12.00	11.70	12.20	11.97
177.	10.90	10.50	11.00	10.80	232.	10.20	10.00	10.60	10.27	287.	13.20	12.70	13.40	13.10
178.	13.10	12.80	13.20	13.03	233.	13.30	13.00	13.30	13.20	288.	13.20	13.10	13.50	13.27
179.	12.80	12.60	12.90	12.77	234.	12.90	12.60	13.40	12.97	289.	10.30	9.80	10.30	10.13
180.	11.20	11.50	11.30	11.33	235.	10.20	10.60	10.60	10.47	290.	12.40	12.20	12.40	12.33
181.	11.40	11.50	11.80	11.57	236.	11.00	10.80	11.10	10.97	291.	11.00	10.50	11.10	10.87
182.	11.80	11.50	11.90	11.73	237.	10.90	11.20	11.10	11.07	292.	13.50	13.30	13.70	13.50
183.	12.30	12.70	12.60	12.53	238.	12.30	12.80	12.50	12.53	293.	10.40	10.20	10.90	10.50
184.	13.30	13.30	13.60	13.40	239.	13.40	13.40	13.60	13.47	294.	10.20	9.80	10.20	10.07
185.	13.60	13.80	14.10	13.83	240.	12.10	11.60	12.40	12.03	295.	10.80	10.50	10.90	10.73
186.	12.90	13.10	13.30	13.10	241.	10.10	9.80	10.50	10.13	296.	13.40	13.20	13.40	13.33
187.	10.10	10.10	10.60	10.27	242.	11.00	10.90	11.30	11.07	297.	11.70	11.40	11.80	11.63
188.	10.30	10.50	10.50	10.43	243.	11.40	11.90	11.90	11.73	298.	10.70	11.10	11.10	10.97
189.	12.00	12.10	12.50	12.20	244.	11.10	11.50	11.30	11.30	299.	11.20	11.70	11.60	11.50
190.	13.20	12.70	13.70	13.20	245.	12.40	12.20	12.70	12.43	300.	11.90	12.30	12.10	12.10
191.	11.30	11.40	11.50	11.40	246.	10.90	10.90	11.20	11.00	301.	10.50	10.90	10.80	10.73
192.	13.20	13.60	13.20	13.33	247.	13.50	13.80	13.60	13.63	302.	12.40	12.00	12.60	12.33
193.	10.60	10.80	10.80	10.73	248.	12.60	12.90	13.10	12.87	303.	11.30	11.60	11.40	11.43
194.	10.60	10.10	10.90	10.53	249.	12.30	12.70	12.80	12.60	304.	12.70	12.40	12.90	12.67
195.	13.90	13.90	14.20	14.00	250.	11.50	11.20	11.50	11.40	305.	12.30	12.60	12.70	12.53
196.	10.10	10.20	10.50	10.27	251.	12.30	12.10	12.30	12.23	306.	11.40	11.00	11.70	11.37
197.	12.70	13.20	13.00	12.97	252.	13.70	14.00	13.90	13.87	307.	13.20	12.90	13.50	13.20
198.	13.90	13.50	13.90	13.77	253.	13.70	13.30	13.80	13.60	308.	10.80	11.30	11.00	11.03
199.	11.20	11.30	11.70	11.40	254.	13.50	13.40	13.60	13.50	309.	13.90	13.90	13.90	13.90

RAW SCORES OF NEW AGILITY TEST OF 15 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
310.	11.70	11.90	12.20	11.93	365.	13.50	13.60	13.90	13.67	420.	11.20	11.00	11.30	11.17
311.	11.80	11.30	12.30	11.80	366.	13.50	13.40	13.50	13.47	421.	11.70	12.20	11.80	11.90
312.	13.70	13.60	13.90	13.73	367.	12.30	12.80	12.40	12.50	422.	10.80	11.30	11.30	11.13
313	10.10	10.00	10.40	10.17	368.	13.30	13.60	13.80	13.57	423.	12.00	12.30	12.30	12.20
314.	12.00	11.60	12.40	12.00	369.	10.50	10.50	10.60	10.53	424.	13.10	13.50	13.20	13.27
315.	10.70	10.80	11.10	10.87	370.	11.10	11.40	11.20	11.23	425.	13.00	12.90	13.00	12.97
316.	13.70	13.60	13.90	13.73	371.	11.10	11.00	11.40	11.17	426.	10.60	10.40	11.10	10.70
317.	10.10	10.50	10.40	10.33	372.	11.50	11.30	11.70	11.50	427.	11.10	11.40	11.40	11.30
318.	13.00	12.90	13.10	13.00	373.	12.90	12.60	12.90	12.80	428.	11.60	11.60	11.70	11.63
319.	10.70	10.90	10.90	10.83	374.	11.30	10.80	11.40	11.17	429.	12.90	13.10	13.00	13.00
320.	11.10	10.80	11.30	11.07	375.	12.30	12.50	12.40	12.40	430.	12.60	12.60	12.90	12.70
321.	10.60	10.60	11.00	10.73	376.	13.50	13.60	13.70	13.60	431.	13.30	13.10	13.80	13.40
322.	10.90	11.10	11.10	11.03	377.	11.90	12.00	12.10	12.00	432.	11.10	11.30	11.30	11.23
323.	11.40	11.90	11.50	11.60	378.	11.60	11.90	11.90	11.80	433.	13.60	13.70	14.00	13.77
324.	13.00	13.00	13.40	13.13	379.	10.30	9.90	10.60	10.27	434.	11.20	11.70	11.30	11.40
325.	13.50	13.40	13.80	13.57	380.	11.30	10.80	11.60	11.23	435.	10.10	10.20	10.10	10.13
326.	10.50	10.40	10.60	10.50	381.	10.10	10.50	10.40	10.33	436.	10.20	10.50	10.30	10.33
327.	13.80	13.70	13.90	13.80	382.	12.90	12.80	13.40	13.03	437.	10.40	10.30	10.50	10.40
328.	13.70	13.70	14.10	13.83	383.	13.80	14.00	14.10	13.97	438.	10.50	10.50	10.60	10.53
329	13.20	12.80	13.40	13.13	384.	13.60	13.20	13.60	13.47	439.	11.90	11.90	12.00	11.93
330.	12.70	12.70	13.10	12.83	385.	10.40	10.70	10.60	10.57	440.	13.00	13.00	13.10	13.03
331.	11.70	12.20	12.00	11.97	386.	12.40	12.30	12.50	12.40	441.	10.90	11.10	11.00	11.00
332.	12.10	12.30	12.60	12.33	387.	11.20	11.30	11.30	11.27	442.	11.10	11.30	11.30	11.23
333.	13.00	12.80	13.20	13.00	388.	13.20	12.70	13.60	13.17	443.	12.20	12.40	12.30	12.30
334.	14.00	13.60	14.20	13.93	389.	14.00	14.00	14.00	14.00	444.	11.30	11.60	11.60	11.50
335.	12.40	11.90	12.60	12.30	390.	13.20	13.00	13.60	13.27	445.	10.80	10.80	10.90	10.83
336.	10.20	10.20	10.60	10.33	391.	13.30	13.40	13.50	13.40	446.	10.10	9.80	10.50	10.13
337.	13.30	13.50	13.80	13.53	392.	10.90	10.60	11.20	10.90	447.	11.30	11.00	11.40	11.23
338.	11.00	11.40	11.00	11.13	393.	11.80	11.30	12.20	11.77	448.	10.50	10.10	10.70	10.43
339.	10.10	10.30	10.20	10.20	394.	11.10	11.30	11.20	11.20	449.	11.40	11.00	11.60	11.33
340.	11.80	11.50	12.10	11.80	395.	12.60	12.60	13.00	12.73	450.	13.70	13.80	13.90	13.80
341.	10.60	11.00	10.70	10.77	396.	13.40	13.20	13.40	13.33	451.	10.40	10.30	10.90	10.53
342.	10.90	11.00	11.00	10.97	397.	12.10	11.70	12.20	12.00	452.	12.60	12.30	13.00	12.63
343.	12.70	12.30	13.00	12.67	398.	10.50	10.10	10.90	10.50	453.	13.30	13.70	13.80	13.60
344.	11.40	11.50	11.50	11.47	399.	12.30	11.90	12.70	12.30	454.	10.90	11.20	11.00	11.03
345.	11.90	12.30	12.20	12.13	400.	10.80	10.50	11.30	10.87	455.	10.20	9.70	10.40	10.10
346.	13.60	13.90	13.80	13.77	401.	13.90	13.70	14.20	13.93	456.	13.20	13.10	13.50	13.27
347.	13.30	13.70	13.60	13.53	402.	13.30	13.30	13.60	13.40	457.	11.60	11.80	11.80	11.73
348.	11.50	11.60	11.60	11.57	403.	11.40	11.40	11.80	11.53	458.	12.60	12.50	12.90	12.67
349.	11.10	11.50	11.50	11.37	404.	12.80	12.70	12.90	12.80	459.	13.90	13.70	14.00	13.87
350.	12.10	11.90	12.40	12.13	405.	12.80	13.00	12.90	12.90	460.	10.30	10.00	10.60	10.30
351.	10.50	10.30	11.00	10.60	406.	12.60	13.00	12.70	12.77	461.	12.00	11.90	12.30	12.07
352.	12.40	12.60	12.40	12.47	407.	11.60	11.90	11.90	11.80	462.	11.50	11.30	11.90	11.57
353.	13.90	14.20	13.90	14.00	408.	12.50	12.50	12.50	12.50	463.	12.70	12.80	12.70	12.73
354.	13.00	13.30	13.20	13.17	409.	12.20	12.50	12.30	12.33	464.	11.00	11.40	11.30	11.23
355.	10.50	10.30	10.80	10.53	410.	11.50	11.80	11.80	11.70	465.	11.80	12.10	12.10	12.00
356.	12.00	11.90	12.40	12.10	411.	12.90	13.30	13.20	13.13	466.	10.40	10.40	10.60	10.47
357.	11.90	12.00	12.10	12.00	412.	11.70	12.10	12.10	11.97	467.	10.30	10.40	10.50	10.40
358.	10.30	10.40	10.50	10.40	413.	11.30	11.50	11.80	11.53	468.	10.20	9.80	10.60	10.20
359.	13.00	12.70	13.00	12.90	414.	11.00	11.20	11.20	11.13	469.	13.90	14.30	14.30	14.17
360.	10.00	10.30	10.10	10.13	415.	13.70	14.10	14.10	13.97	470.	12.50	12.50	12.70	12.57
361.	13.90	13.40	14.30	13.87	416.	11.40	11.20	11.80	11.47	471.	10.30	9.80	10.50	10.20
362.	12.30	12.80	12.60	12.57	417.	10.20	9.70	10.50	10.13	472.	11.70	11.30	11.90	11.63
363.	11.20	11.40	11.50	11.37	418.	10.60	10.50	11.10	10.80	473.	10.00	9.80	10.50	10.10
364.	13.10	12.70	13.50	13.10	419.	12.80	13.10	13.10	13.00	474.	11.90	11.70	12.00	11.87

RAW SCORES OF NEW AGILITY TEST OF 15 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
475.	11.30	11.50	11.70	11.50	530.	11.40	11.90	11.70	11.67	585.	11.30	11.30	11.60	11.40
476.	12.90	13.30	13.30	13.17	531.	11.80	11.80	12.20	11.93	586.	13.60	14.00	13.80	13.80
477.	12.70	12.80	13.10	12.87	532.	13.10	13.20	13.20	13.17	587.	10.10	10.10	10.30	10.17
478.	13.80	14.10	14.10	14.00	533.	11.10	10.70	11.30	11.03	588.	11.70	12.10	12.10	11.97
479.	11.70	11.80	12.00	11.83	534.	11.60	11.50	12.00	11.70	589.	10.70	10.60	11.10	10.80
480.	11.30	11.40	11.60	11.43	535.	13.60	14.00	13.70	13.77	590	11.30	11.60	11.70	11.53
481.	12.20	11.90	12.50	12.20	536.	10.20	9.80	10.50	10.17	591.	11.20	10.90	11.50	11.20
482.	10.70	10.20	10.90	10.60	537.	10.50	10.00	10.70	10.40	592.	10.20	9.80	10.30	10.10
483.	11.10	11.00	11.20	11.10	538.	11.90	11.60	11.90	11.80	593.	12.10	11.70	12.40	12.07
484.	12.00	12.20	12.30	12.17	539.	13.40	13.80	13.70	13.63	594.	13.40	13.70	13.50	13.53
485.	10.80	10.70	11.10	10.87	540.	12.10	12.00	12.30	12.13	595.	13.00	13.40	13.00	13.13
486.	12.80	13.10	13.20	13.03	541.	12.20	12.30	12.60	12.37	596.	10.30	10.40	10.80	10.50
487.	12.90	13.20	13.00	13.03	542.	13.30	13.60	13.40	13.43	597.	13.30	13.20	13.60	13.37
488.	11.70	12.00	12.00	11.90	543.	13.50	13.00	13.60	13.37	598.	10.90	11.10	11.40	11.13
489.	13.90	14.10	14.00	14.00	544.	13.00	12.90	13.10	13.00	599.	10.60	10.90	10.80	10.77
490.	10.70	10.60	11.10	10.80	545.	12.90	13.10	13.20	13.07	600.	12.90	12.90	13.10	12.97
491.	12.10	11.90	12.40	12.13	546.	13.70	13.40	13.70	13.60	601.	10.50	10.50	10.90	10.63
492.	12.30	12.10	12.70	12.37	547.	10.20	10.20	10.60	10.33	602.	12.30	12.80	12.80	12.63
493.	13.70	13.80	14.10	13.87	548.	11.50	11.20	11.80	11.50	603.	12.30	12.10	12.30	12.23
494.	10.80	10.70	10.90	10.80	549.	10.10	10.30	10.60	10.33	604.	10.40	10.60	10.70	10.57
495.	11.40	11.60	11.70	11.57	550.	13.30	13.70	13.40	13.47	605.	10.80	11.30	10.90	11.00
496.	11.00	10.90	11.40	11.10	551.	12.80	12.70	13.20	12.90	606.	10.70	11.00	11.10	10.93
497.	10.70	10.50	11.00	10.73	552.	10.80	11.20	10.90	10.97	607.	12.00	11.90	12.30	12.07
498.	12.60	12.70	13.10	12.80	553.	13.60	13.60	13.90	13.70	608.	13.60	13.90	13.80	13.77
499.	11.20	11.50	11.40	11.37	554.	13.50	13.20	13.80	13.50	609.	13.30	13.20	13.60	13.37
500.	11.70	12.00	12.10	11.93	555.	11.10	11.40	11.20	11.23	610.	12.90	12.90	13.10	12.97
501.	11.50	11.90	11.60	11.67	556.	12.40	12.10	12.60	12.37	611.	11.10	11.10	11.40	11.20
502.	10.30	9.80	10.80	10.30	557.	12.90	13.10	13.00	13.00	612.	10.60	11.00	10.60	10.73
503.	11.80	12.00	12.30	12.03	558.	13.10	12.90	13.10	13.03	613.	10.80	10.60	11.00	10.80
504.	13.20	13.70	13.30	13.40	559.	11.50	11.20	11.70	11.47	614.	13.20	12.90	13.50	13.20
505	11.90	12.30	12.20	12.13	560.	14.00	13.90	14.40	14.10	615.	12.60	12.50	13.00	12.70
506.	11.70	11.20	11.70	11.53	561.	10.70	11.10	11.10	10.97	616.	11.30	11.50	11.60	11.47
507.	13.30	13.20	13.40	13.30	562.	12.50	12.40	12.90	12.60	617.	13.20	13.20	13.40	13.27
508.	11.00	11.30	11.20	11.17	563.	11.40	11.50	11.80	11.57	618.	12.10	12.00	12.30	12.13
509.	13.10	13.10	13.50	13.23	564.	13.10	12.70	13.20	13.00	619.	13.00	12.90	13.30	13.07
510.	13.60	13.90	13.70	13.73	565.	13.00	13.10	13.00	13.03	620.	12.70	12.50	13.00	12.73
511.	12.00	11.80	12.10	11.97	566.	11.90	12.40	12.20	12.17	621.	11.50	11.10	11.70	11.43
512.	10.60	10.90	11.00	10.83	567.	12.80	12.70	12.80	12.77	622.	12.50	12.40	12.70	12.53
513.	10.60	11.00	10.70	10.77	568.	11.20	11.20	11.30	11.23	623.	10.70	10.80	11.00	10.83
514.	11.50	11.70	11.50	11.57	569.	12.00	12.10	12.40	12.17	624.	13.00	12.80	13.20	13.00
515.	14.00	13.50	14.20	13.90	570.	10.20	10.70	10.60	10.50	625.	10.70	10.90	11.00	10.87
516.	12.10	12.10	12.20	12.13	571.	10.70	10.90	11.00	10.87	626.	11.70	11.90	12.10	11.90
517.	12.40	12.20	12.70	12.43	572.	11.10	10.90	11.30	11.10	627.	11.70	11.50	12.00	11.73
518.	12.40	12.70	12.90	12.67	573.	10.00	10.00	10.40	10.13	628.	11.40	11.50	11.70	11.53
519.	13.50	13.40	13.70	13.53	574.	12.50	12.40	12.90	12.60	629.	12.10	12.30	12.30	12.23
520.	13.40	13.70	13.80	13.63	575.	13.10	13.20	13.10	13.13	630.	12.20	12.20	12.40	12.27
521.	13.80	13.70	14.20	13.90	576.	11.20	11.50	11.30	11.33	631.	12.00	12.30	12.20	12.17
522.	10.50	10.10	10.60	10.40	577.	13.00	12.80	13.50	13.10	632.	11.90	12.20	12.30	12.13
523.	12.80	13.00	12.80	12.87	578.	11.00	11.10	11.40	11.17	633.	12.20	11.70	12.60	12.17
524.	12.10	12.30	12.50	12.30	579.	10.90	10.90	10.90	10.90	634.	11.80	11.60	11.80	11.73
525.	13.90	14.10	14.10	14.03	580.	12.80	13.10	12.80	12.90	635.	13.30	13.50	13.70	13.50
526.	10.10	10.30	10.30	10.23	581.	12.20	12.50	12.30	12.33	636.	12.80	12.70	13.10	12.87
527.	10.70	11.00	10.70	10.80	582.	11.00	11.30	11.30	11.20	637.	10.60	10.70	10.70	10.67
528.	11.80	11.80	12.20	11.93	583.	12.20	11.70	12.50	12.13	638.	11.60	12.10	11.90	11.87
529.	12.30	12.10	12.60	12.33	584.	12.60	12.80	12.60	12.67	639.	11.40	11.50	11.70	11.53

RAW SCORES OF NEW AGILITY TEST OF 15 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
640.	13.00	13.30	13.10	13.13	695.	10.40	10.70	10.70	10.60	750.	10.40	10.30	10.80	10.50
641.	11.70	11.40	12.10	11.73	696.	12.30	12.80	12.40	12.50	751.	10.20	10.40	10.20	10.27
642.	13.10	12.60	13.20	12.97	697.	13.40	13.50	13.50	13.47	752.	11.50	11.20	11.60	11.43
643.	10.10	9.90	10.20	10.07	698.	13.30	13.00	13.80	13.37	753.	10.50	10.70	10.70	10.63
644.	11.60	12.00	11.90	11.83	699.	10.10	9.80	10.30	10.07	754.	12.30	12.70	12.60	12.53
645.	13.80	14.00	13.90	13.90	700.	13.00	13.40	13.30	13.23	755.	12.70	13.00	13.10	12.93
646.	11.50	11.10	11.50	11.37	701.	11.90	11.50	12.00	11.80	756.	10.90	10.80	11.20	10.97
647.	11.30	11.60	11.50	11.47	702.	12.10	11.60	12.30	12.00	757.	10.80	11.20	10.90	10.97
648.	11.70	11.30	12.00	11.67	703.	12.10	12.40	12.40	12.30	758.	12.80	12.90	13.10	12.93
649.	13.20	13.10	13.60	13.30	704.	13.30	12.80	13.70	13.27	759.	12.90	13.30	13.20	13.13
650.	10.90	10.70	11.00	10.87	705.	11.50	11.60	11.70	11.60	760.	13.40	13.50	13.80	13.57
651.	10.90	11.30	11.30	11.17	706.	10.80	11.10	11.10	11.00	761.	12.80	12.90	13.20	12.97
652.	10.00	10.20	10.00	10.07	707.	12.70	13.10	13.10	12.97	762.	11.90	12.40	12.20	12.17
653.	11.30	11.80	11.60	11.57	708.	13.60	13.40	13.80	13.60	763.	10.20	10.60	10.20	10.33
654.	12.10	11.90	12.30	12.10	709.	10.20	10.60	10.50	10.43	764.	12.70	12.30	12.90	12.63
655.	11.30	10.90	11.60	11.27	710.	10.90	11.30	10.90	11.03	765.	10.70	10.30	10.90	10.63
656.	11.20	10.70	11.50	11.13	711.	11.90	12.00	12.30	12.07	766.	10.80	10.60	11.20	10.87
657.	12.50	12.80	13.00	12.77	712.	11.80	12.30	12.20	12.10	767.	12.00	11.70	12.40	12.03
658.	13.10	13.20	13.60	13.30	713.	12.40	12.10	12.90	12.47	768.	12.80	12.70	13.00	12.83
659.	10.70	11.10	10.80	10.87	714.	11.50	11.50	11.50	11.50	769.	13.60	13.90	13.90	13.80
660.	11.00	10.90	11.20	11.03	715.	12.20	11.80	12.40	12.13	770.	13.10	12.90	13.60	13.20
661.	13.50	13.90	13.90	13.77	716.	12.20	11.70	12.50	12.13	771.	11.70	11.90	11.90	11.83
662.	11.40	11.40	11.80	11.53	717.	12.90	12.90	13.10	12.97	772.	11.80	11.70	11.90	11.80
663.	10.20	9.80	10.40	10.13	718.	13.40	13.50	13.70	13.53	773.	10.40	10.30	10.70	10.47
664.	12.80	12.30	13.10	12.73	719.	11.90	11.50	12.00	11.80	774.	10.20	10.00	10.40	10.20
665.	11.10	11.10	11.10	11.10	720.	11.80	12.30	12.20	12.10	775.	10.90	11.00	11.00	10.97
666.	10.20	10.20	10.60	10.33	721.	10.30	10.00	10.60	10.30	776.	13.90	14.00	14.20	14.03
667.	12.90	12.90	13.00	12.93	722.	11.80	12.30	12.10	12.07	777.	13.90	13.50	13.90	13.77
668.	12.80	13.00	13.10	12.97	723.	10.10	10.00	10.40	10.17	778.	12.30	12.20	12.40	12.30
669.	13.60	13.40	13.60	13.53	724.	12.10	12.00	12.40	12.17	779.	11.00	11.30	11.10	11.13
670.	10.90	10.50	11.30	10.90	725.	12.80	12.70	13.20	12.90	780.	11.10	11.50	11.10	11.23
671.	12.40	12.30	12.50	12.40	726.	10.10	9.90	10.50	10.17	781.	12.30	12.10	12.70	12.37
672.	10.10	10.40	10.50	10.33	727.	13.60	13.50	14.00	13.70	782.	12.30	12.80	12.40	12.50
673.	10.40	10.70	10.50	10.53	728.	11.00	11.40	11.00	11.13	783.	10.10	10.40	10.10	10.20
674.	13.20	12.90	13.30	13.13	729.	13.30	13.00	13.70	13.33	784.	13.00	13.00	13.20	13.07
675.	10.90	11.30	11.40	11.20	730.	10.70	10.70	11.10	10.83	785.	10.50	10.60	10.80	10.63
676.	10.40	10.10	10.80	10.43	731.	12.20	12.40	12.60	12.40	786.	10.40	10.00	10.80	10.40
677.	13.60	13.40	13.80	13.60	732.	12.10	11.60	12.20	11.97	787.	12.10	12.00	12.10	12.07
678.	13.50	13.70	13.60	13.60	733.	13.50	13.10	14.00	13.53	788.	10.60	10.50	11.10	10.73
679.	13.40	12.90	13.50	13.27	734.	10.90	10.90	11.30	11.03	789.	12.00	11.80	12.20	12.00
680.	10.30	10.60	10.40	10.43	735.	11.60	11.80	12.00	11.80	790.	12.00	12.20	12.00	12.07
681.	13.60	14.00	14.00	13.87	736.	11.30	11.60	11.60	11.50	791.	13.60	13.70	13.80	13.70
682.	11.50	12.00	11.80	11.77	737.	13.20	13.30	13.40	13.30	792.	12.30	12.00	12.50	12.27
683.	11.00	10.70	11.50	11.07	738.	11.60	11.60	11.70	11.63	793.	10.00	9.90	10.10	10.00
684.	10.30	10.10	10.70	10.37	739.	10.60	10.10	11.10	10.60	794.	10.60	10.70	10.90	10.73
685.	10.40	10.80	10.90	10.70	740.	11.90	11.70	11.90	11.83	795.	11.30	10.80	11.70	11.27
686.	13.90	14.20	14.20	14.10	741.	11.80	11.80	12.20	11.93	796.	13.50	13.10	13.50	13.37
687.	14.00	14.20	14.10	14.10	742.	11.20	11.50	11.30	11.33	797.	11.60	11.30	12.00	11.63
688.	13.20	12.90	13.60	13.23	743.	12.00	12.00	12.30	12.10	798.	11.70	11.50	12.00	11.73
689.	11.60	12.10	11.80	11.83	744.	12.80	13.10	13.20	13.03	799.	10.60	11.00	10.80	10.80
690.	11.30	11.20	11.50	11.33	745.	11.80	12.20	11.80	11.93	800.	10.40	10.80	10.80	10.67
691.	13.10	13.40	13.50	13.33	746.	12.60	12.50	12.80	12.63	801.	10.70	10.80	10.90	10.80
692.	11.70	11.60	12.10	11.80	747.	13.90	14.20	14.20	14.10	802.	13.10	13.10	13.20	13.13
693.	13.70	13.90	14.10	13.90	748.	10.20	10.50	10.60	10.43	803.	11.20	11.00	11.60	11.27
694.	12.20	11.80	12.50	12.17	749.	10.80	10.50	11.20	10.83	804.	12.00	11.50	12.20	11.90

RAW SCORES OF NEW AGILITY TEST OF 15 YEAR OLD BOYS (Continued)

(Scores in seconds)

SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE	SNo	I Tr	II Tr	III Tr	AVE
805.	10.20	10.00	10.30	10.17	821.	12.50	12.80	12.60	12.63	837.	11.30	11.40	11.80	11.50
806.	11.50	11.00	11.80	11.43	822.	11.20	11.50	11.40	11.37	838.	10.50	10.30	10.90	10.57
807.	13.60	13.70	13.70	13.67	823.	12.60	12.60	13.10	12.77	839.	13.30	12.80	13.80	13.30
808.	11.80	12.30	12.20	12.10	824.	12.30	12.70	12.50	12.50	840.	11.00	11.30	11.30	11.20
809.	12.90	13.40	13.10	13.13	825.	11.20	10.90	11.40	11.17	841.	10.80	11.20	11.00	11.00
810.	12.40	12.40	12.40	12.40	826.	12.50	12.20	12.80	12.50	842.	10.40	10.30	10.80	10.50
811.	10.80	10.30	11.20	10.77	827.	10.50	10.70	10.70	10.63	843.	12.30	11.90	12.60	12.27
812.	13.40	13.60	13.50	13.50	828.	13.00	13.40	13.10	13.17	844.	11.80	12.10	11.90	11.93
813.	13.60	13.30	13.80	13.57	829.	12.30	12.30	12.60	12.40	845.	10.70	10.30	11.20	10.73
814.	10.90	11.30	11.20	11.13	830.	12.90	13.40	13.30	13.20	846.	13.80	13.80	14.20	13.93
815.	12.60	13.00	13.00	12.87	831.	12.30	12.70	12.80	12.60	847.	10.80	11.30	10.80	10.97
816.	12.90	12.40	12.90	12.73	832.	12.80	12.80	12.80	12.80	848.	11.80	11.50	11.90	11.73
817.	12.40	12.80	12.80	12.67	833.	10.80	11.30	11.30	11.13	849	10.30	10.50	10.70	10.50
818.	11.60	11.80	12.10	11.83	834.	13.10	13.20	13.40	13.23	850.	13.80	13.50	14.10	13.80
819.	11.40	11.80	11.70	11.63	835.	12.10	11.80	12.50	12.13	851.	13.70	13.80	14.00	13.83
820.	13.90	13.90	14.10	13.97	836.	11.10	10.70	11.40	11.07					

CONSTRUCTION OF TEST AND COMPILATION OF NORMS FOR MEASUREMENT OF AGILITY FOR KENDRIYA VIDYALAYA BOYS OF CHENNAI REGION

Dissertation submitted to the Alagappa University, Karaikudi
for the fulfilment of the requirements for the award of
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PHYSICAL EDUCATION

Submitted by

SHANMUGAM VAIRAMANI

Guided by

Dr. R. THIRUMALAISAMY M.A., M.P.Ed., Ph.D.,

Department of Physical Education & Health Sciences
ALAGAPPA UNIVERSITY
KARAIKUDI - 630 004

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